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ABSTRACT

This publication presents papers and abstracts of research from a project to stimulate nursing education research in the South. The five papers in section 1 discuss some major developments in nursing education research, including (1) past and future of research in the south, (2) conducting clinical instruction of health science students and evaluating student competencies and teacher effectiveness, (3) response to the second paper from a nursing viewpoint, (4) clinical laboratory in nursing education, and (5) factors affecting faculty development for women in higher education. The second section contains abstracts of 17 collaborative research studies conducted during the project. This research is related to four nursing education issues: clinical performance evaluation, curriculum, laboratory and clinical teaching strategies, and faculty development. Each study is summarized, and findings and/or conclusions are outlined. The three papers in section 3 offer three views of collaborative research. One presents results from surveys of researchers participating in the project regarding process and impact of participation. The other two papers are a dean's perspective of collaborative research by faculty and a faculty point of view. Section 4 contains three papers emphasizing the importance of publishing research results. The two papers in the final section focus on finding and obtaining research funding for nurses and nursing's impact on federal legislation. (YLB)

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Kenneth Huggins

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Audrey F. Spector, Principal Investigator
Barbara Lovett Mauger, Project Director
Kenneth Huggins, Project Assistant

Nursing Research Development in the South

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Foreword

This publication is a product of the Nursing Research Development in the South project (1977-1980). Planned by the Council on Collegiate Education for Nursing to stimulate nursing education research in the South, the project was funded by the Division of Nursing, Department of Health, Education, and Welfare (now Department of Health and Human Services), and administered by the Southern Regional Education Board. During the project, 77 nurse researchers from throughout the South divided into 19 research groups and conducted collaborative research studies related to four nursing education issues: clinical performance evaluation, curriculum, laboratory and clinical teaching strategies, and faculty development.

It is the purpose of this publication not only to report on the studies carried out during the project and discuss some of the major developments in nursing education research, but also to emphasize the importance of publishing research results, finding and obtaining money for research, improving legislators' awareness of nursing research and its uses, and, from experiences in this project, understanding the factors that affect collaborative research.

Audrey F. Spector
Nursing Programs Director

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Developments in Nursing Education Research

Nursing Education Research in the South: Past and Future

Janet A. Rodgers
Former Chairman
Department of Nursing
Old Dominion University

Concern for nursing education and nursing research in the South dates back to the formation of the Southern Regional Education Board (SREB) in 1948. Initial regional efforts were directed to the establishment of graduate programs and the concommitant need for research in developing these programs, with the Committee on Graduate Education and Research in Nursing, formed in 1950, serving as the forerunner of SREB's Council on Collegiate Education for Nursing. The success of these early efforts is clear. By the mid-1950s the region's first six master's programs in nursing were operational; today there are 41 educational institutions offering master's programs in nursing and four offering doctoral programs in the 14 states.

As Audrey Spector points out in her summary article in the 25th anniversary issue of *Nursing Research* (Spector, 1977), the efforts at developing research in the Southern region lagged far behind the development of new educational programs. The fact that early research efforts consisted of isolated projects carried out by nurses in a handful of institutions should not surprise us at all. Bixler noted that in 1952 there were only three nurse faculty in the entire region with doctoral degrees; today there are 476 (Rodgers, 1979). With the increase in graduate programs and the number of faculty with doctorates, increased interest in, and productivity of, nursing research could be expected. A backward glance over the last decade gives us reason to be encouraged for the future.

SREB's Response to the Need

Federal funding for research development grants at three institutions in the region (the University of Maryland, the University of Virginia, and the University of North Carolina at Chapel Hill) served as an important stimulus for the development of the first regional research project. In retrospect, the emerging pattern is clear. Several lone researchers lead the way. The stimulation offered by colleagues lends itself to group involvement. In turn, group projects serve as a stimulus for further individual and group efforts.

In 1972, Helen Belcher, project director for Regional Planning for Nursing Education in the South, met with the directors of individual research development projects. The purpose was to form an *ad hoc* committee to develop preliminary plans for a regional project. The University of North Carolina at Chapel Hill led the way by hosting the meeting and taking the major responsibility for writing the proposal which was endorsed by the whole committee.

This three-year project, commonly referred to as Regional Research Project #1 (formally titled, Continuing Education in Nursing Research: A Regional Approach to Faculty Research Development), was funded by HEW, directed by Joyce Semradek, and administered by her institution, the University of North Carolina at Chapel Hill. Beginning in 1974, the first research project sought to involve faculty from the region's 29 graduate nursing programs and serve two main pruposes: (1) stimulate individuals to conduct research and strengthen their ability to serve as preceptors to others, and (2) test a process for developing continuing faculty research on a regional basis. With insufficient numbers of doctorally-prepared nurse researchers available in the South (plus the added problem of freeing these relatively rare birds from administrative and teaching responsibilities in order to conduct research), the project was based on the belief that research should not be limited to doctorally-prepared nurses.

Problems studied during the project covered four clinical areas: pain, attachment-separation, continuity of care, and nurse-physician interaction. A total of 52 nurse faculty participated in 44 studies facilitated during the three years of this project.

While the first research project was being planned, another three-year project, entitled Regional Planning for Nursing Education in the South, was funded by HEW. It began in June 1972. A committee on research for this Regional Planning Project was appointed, and to assure coordinated efforts, the committee included individuals responsible for Research Project #1. The committee decided that its first task was to gather information about the current status of nursing research in the region. A survey to gather this information was mailed in December 1973 to 266 institutions, with the results being published by SREB in 1974 (Notter and Spector). The sample included responses from associate degree, baccalaureate, and graduate programs, as well as a limited number of practice settings in federal nursing service agencies in the region.

The preliminary results of the survey were reported at the Spring 1974 meeting of the Council on Collegiate Education for Nursing by Dr. Lucille Notter, who served as consultant for the survey. Among the major barriers to research identified by the Council at this meeting were: lack of time because of heavy teaching loads, inadequate support services, lack of assessment tools, lack of opportunity for faculty to meet and discuss research with colleagues, and the feeling of isolation and the need to work more closely with others having similar research interests.

Second Regional Research Project

An outgrowth of the concerns identified at the Council meeting and the enthusiasm generated by Research Project #1 was the proposal submitted to the Division of Nursing, HEW, entitled, Nursing Research Development in the South. The proposal was approved and funded and began in February 1977. This second regional project was administered by SREB and received funds as a facilitation grant to stimulate the development and completion of nursing education research among nursing faculty from associate degree, baccalaureate, and graduate programs.

The stated objectives of this project were to (1) identify research problems in nursing education, emphasizing those unique to nursing education; (2) identify other research problems which may include clinical practice and the delivery of health care; (3) establish priorities among the research problems identified; (4) promote development of research proposals; (5) encourage faculty to involve students and other faculty and health professionals in their research; (6) coordinate research efforts among the schools in the South; and (7) disseminate information about research activities.

The grant included funds for transportation costs and consultation for 77 nurse researchers, divided into 19 work groups, who collaborated on investigations related to four nursing education issues: clinical performance evaluation, curriculum, laboratory and clinical teaching strategies, and faculty development. The 19 workgroups varied in size from two to nine members, with four or five being the average. All but two of the groups were comprised of faculty from two or more different schools in the SREB region, with some groups as widely dispersed as Texas, Maryland, and Florida.

Of prime importance was the concept of collaboration — drawing nurse faculty together into smaller work groups to provide mutual stimulation and to devise strategies and plans for conducting and carrying out cooperative research projects. The value of peer group support is not to be underestimated. A major plus is the decrease in the sense of isolation felt by the nurse researcher — a factor especially important to the novice investigator. In a very practical vein, the group approach lends itself to a division of labor and maximum use of skills. With each member bringing a unique area of expertise and experience, in most cases the whole is truly greater than the sum of its parts.

By the last month of the grant, 17 of the project's 19 groups had completed their data analysis. Eight groups had drafted articles for publication, while three others had completed articles, one of which was accepted for publication. Using Stevenson's (1979, p. 60) rule of thumb, this research project has done very well. She suggested that in research conducted by peer groups, 30 to 40 percent of the groups will be productive, with a few more having productive members, and 30 to 40 percent of the groups will disband for any number of valid reasons.

Some of these valid reasons have been discussed by Lindeman and Krueger (1977): namely — time, expense, and dynamics. Although expenses for transportation were paid for by the grant (participant schools paid for lodging), there are always other incidental expenses involved in bringing group members together from different geographical settings. Time away from one's usually hectic institutional schedule is frequently a major constraint. And thirdly, all the subtle, and not so subtle, dynamics of the group process hinder group progress. Problems can range from personality clashes, to competition for, or lack of, leadership, to the problem of ownership of group efforts. For instance, who will be the first author in any resulting publication.

Some Thoughts about the Future

Clearly, great progress has occurred in the five years since Notter and Spector's report. This most recent project involved nurse faculty from all areas of educational interest — associate degree, baccalaureate, master's, doctoral, and continuing education programs. And it appears that earlier concern over both the quality and quantity of research content presented in master's programs, and even more particularly in baccalaureate programs, has been taken seriously, for nurse researchers seem to be growing increasingly more sophisticated in investigative endeavors.

The primary emphasis of this second regional project was on nursing education. This is in contrast to the first regional project, the purpose of which was to promote and support the development of patient care research in settings where graduate students were learning. The change of focus from clinical to educational nursing research was a direct response to the interests expressed by the deans and directors at the spring 1974 Council meeting. It is important, however, that nurse educators consider several of the issues involved in predicting and, indeed, having a say about the future of educational research in the region. The two issues that I would like to discuss briefly are research philosophy and research funding.

Although funding is the issue of lesser importance, it is the one most frequently on nurses' minds. There are numerous funding sources which nurses can attempt to tap. It is very clear, however, that the Division of Nursing, Department of Health and Human Services, now intends to fund practice-oriented research and not educational or basic science research. As you know, the primary focus will be on program grants — that is, cluster studies within an institution. There is a great deal of interest being generated across the country, and I predict that the competition for these program grant funds will be keen. It is hoped that a fair number of schools in the SREB region will be recipients of these grants. If so, the skills developed by nurse faculty through the first and second regional projects will probably be put to good use.

The Division of Nursing is now setting funding priorities for research areas (or areas of emphasis). Some Division funds will continue to be available for small individual grants, since there is still some strong encouragement for submission of grants by what the Division refers to as "newer investigators" or "early beginners." These grants are aimed at the inexperienced nurse researcher who has never received funding but who has proposed a good, small project. Funding for this type of project would be $10,000 or less. Again, it is hoped that the experience gained in this regional project by nurse faculty with minimal research skills will serve to encourage several of them to submit proposals for "new investigator" grants.

Although the Division of Nursing, now a part of the Department of Health and Human Services, will not be funding educational research in nursing, it would seem prudent to explore funding possibilities through the newly formed Department of Education. With a little creativity, nurse researchers may be able to fit their research interests into one of the areas being funded by the Department of Education. Besides, there are numerous other sources of financial support for studies relating to nursing education. There are a plethora of important questions in nursing education which need answers.

As for the issue of research philosphy, the question is, Should the prime concern for future nursing research in this region be research in nursing education? I have no doubt in my mind that there are many important questions which constantly confront us as nursing educators that can benefit from research. However, I personally believe that nursing's future is not in the direction of educational research. For, to be concerned with the discipline of nursing, research studies carried out by nurses must be undertaken from a nursing perspective. That is, they must be derived from nursing theory. The questions asked and the hypotheses to be tested must stem from a conceptual model of nursing. Put most simply, studies dealing with the educational process in nursing are not nursing research but educational research. In contrast, for example, as Donaldson and Crowley (1978, p. 114) point out, a study of the effects of educational techniques on clients' achievement of health does not fall within the discipline of nursing. According to them, "More explicit identification of what we are doing in nursing research is imperative if we are to truly function as nurse researchers, rather than as nurses conducting research in other disciplines, and if we are to have nursing theories for the professional practice of nursing."

As nurse educators, we must be vitally concerned with identifying the structure of the discipline of nursing, for it is this content which we will be offering in our educational programs that will govern the professional practice of our future students.

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Research on the Evaluation of Health Science Students and Teachers

Wayne K. Davis
Associate Professor and Director
Office of Educational Resources and Research
The University of Michigan Medical School

In the course of this chapter, I will discuss two topics extremely important to persons interested in educational research in the health sciences. The first is related to conducting clinical instruction and evaluating student competencies as a result of clinical instruction. The second deals with the evaluation of teacher effectiveness and focuses on what research has to tell us about the effective teacher and how to evaluate teaching.

Clinical Teaching/Evaluation of Clinical Competence

The evaluation of clinical performance is one of the most time-consuming and problematic aspects of teaching in the health sciences. While it is true that educators in all fields recognize the importance of evaluating student performance, health science faculty feel a particular responsibility to evaluate carefully the clinical performance of students, since they are certifying to the public that each student is competent to provide health care.

Much has been written about the conduct of clinical teaching and the evaluation of clinical competence. Unfortunately, most of the educational literature which deals with clinical teaching is merely a restatement of an author's beliefs or observations regarding what constitutes effective clinical instruction. Frequently, these beliefs are not substantiated by any research findings or evaluation data. In nursing, although much has been written regarding clinical teaching, the great majority of this literature falls under the characterization of author's beliefs or current practices (Dagget, Cassie, and Collins, 1979). Further, the nursing literature seems to deal primarily with the content of the learning experience, while there is little information regarding the necessary teaching skills or the specific measurement techniques which are applicable to the clinical situation. The available literature encourages the reader to "be a good role model," "be enthusiastic," "be approachable," and "teach in a student-centered way."

The literature on the evaluation of students' clinical competence is also not as strong as one would like, given the importance of the certifying role of the faculty-evaluator. While the research in this area is still developing sophistication, a review of the research in clinical performance evaluation, conducted by Irby, Evans, and Larson (1978) at the University of Washington, Seattle, identified several trends which seem to be encouraging. These trends include:

(1) *A greater emphasis on relating the evaluation to stated objectives.* Although health science educators have known for some time the importance of satisfying particular outcomes of their teaching (both classroom and clinical), frequently the evaluation of students' competence is not linked directly to the stated objectives. Clever students realize very quickly whether or not objectives are a part of the evaluation program. When they are not, the role of the student becomes one of "psyching out the teacher." Recently, however, the evaluation of clinical competence has been linked more directly to the stated objectives for the clinical education program. By linking

evaluations more closely with the objectives, the evaluation process is improved significantly. The students are aware of what is to be evaluated and, therefore, know where they are to direct their attention. Faculty also benefit by increasing the precision of their assessments.

(2) *An increased attention to the clinical evaluation process as a vehicle for instructional improvement.* When the evaluation of student competence is used for instructional improvement purposes, the evaluation should be disconnected from the grading mechanism. Evaluation for instructional improvement requires a different environment and different data than evaluations conducted to grade students.

A number of interesting examples of separating grading from instruction have been reported in the literature. One study in dentistry used the approach of co-therapy (Daggett, *et al*, 1979). In co-therapy, a faculty member and a student share responsibility for a given patient. The co-therapy situation provides guidance and feedback to the student but does not evaluate the student for grading purposes. This creates an atmosphere more conducive to learning and it alters the faculty co-therapist role to that of helper. This approach also provides input to the faculty member regarding strengths and weaknesses of selected teaching techniques. The same approach could be applied to nursing, allowing clinical instructors to work closely with a student and thereby diagnose problems in instructional techniques. Whether the evaluation is primarily to serve the needs of the faculty member or to provide feedback to the student regarding his performance, the evaluation must be frequent to be of maximum impact.

(3)*Provision for observer training to improve reliability among faculty.* The current literature is replete with examples of poorly conducted studies and of poorly designed evaluation instruments that seem to ignore the obvious fact that clinical instructors need training in observational skills to be effective evaluators. When instructors are not taught observational and evaluation techniques, there is a lack of "inter- and intra-rater" reliability. By inter-rater reliability, I mean the agreement of two or more independent judges evaluating a particular event — the same event. Intra-rater reliability refers to the ability of a single rater to rate two equivalent events in a similar fashion.

Observer training is one of several factors (which also includes the objective specification of criteria against which the student performance is evaluated) that decrease variability and increase reliability of clinical instructor ratings and observations. A recent study conducted at the University of Michigan (Dielman, Hull, and Davis, 1979) substantiated an earlier finding by Printen, Chappell, and Whitney (1973) that house staff obtain a higher inter-rater reliability than the teaching faculty when rating junior student clinical performance in medical school. The instrument that was used in the Michigan study resulted from collaboration between clinical teachers and measurement specialists. It was composed of behaviorally-anchored rating scales. At each point on the scale, the observed student performance was stated in exact behavioral terms. Therefore, the specification of criteria was accomplished. However, no rater training was conducted.

The differences that exist in the inter-rater reliability of house staff compared to faculty teaching staff can be attributed to differences in the amount of time spent with the students. The house staff spend more time with the students and also observe directly the performance of clinical skills by the students more frequently than do the teaching faculty. Anecdotally, it is frequently the case in medical schools that I have visited that faculty members are called on to evaluate the competence of students when they have never actually witnessed the student perform the relevant clinical skills or even interact with a patient. Some faculty are apparently willing to make this evaluation based only on secondhand information of the student's performance or based on the student's presentation during rounds.

Regardless of the amount of training received, or the exact specification of behavioral outcomes, low inter-rater reliability seems to be the norm when dealing with independent, subjective judgments. Ratings of students' clinical competence are no exception. McGuire (1974) reported that correlations between different supervisors' ratings of the same individual on the same factors generally did not exceed .30, indicating only moderate agreement. If raters are trained in observational techniques, and if there is a carefully defined set of criteria for evaluating student performance, faculty members should still keep in mind, when evaluating students, that they must strive to collect several independent judgments due to this low level of inter-rater and intra-rater agreement.

(4) *Increased uses of simulation techniques.* A concise definition for simulation comes from Irby (1978): "A simulation actively involves individuals in realistic settings in which they confront a problem requiring them to initiate and carry through a sequence of inquiries, decisions, and/or actions. Ideally, the situation should provide feedback which can be used for making subsequent decisions." There are many simulation modalities available for the teacher/evaluator today, and there are many applications for these modalities. Simulation can be used to teach or evaluate the interpretation of clinical or laboratory data, interpersonal skills, or judgment in the management of a patient. Contemporary simulations include such modalities as photographic reproduction, motion pictures, slides, movies, videotapes, 3D models, written simulations, patient management problems, computer assisted simulations, and individuals trained to simulate patients.

While simulations are frequently used in evaluation, their validity has been questioned, for although the content validity of a simulation may be established by a panel of experts, the predictive validity has yet to be demonstrated. No evidence currently exists that the student who performs well in a simulated situation actually demonstrates a higher competency in an actual clinical situation than a student who performs poorly in the simulation.

The advantages of simulation techniques, however, have overshadowed the validity problems and many health science schools rely heavily on simulation techniques for evaluation purposes. The pre-selection of tasks to be evaluated, the standardization of these tasks for all students, and the improved rating forms that are used with these clinical simulations have influenced many teachers to use them to evaluate students' clinical capabilities. Many researchers, including McGuire (1974), believe that simulation frequently provides better evaluation results than can be achieved by observing in an actual clinical situation. Standardization of the stimulus situation, control of extraneous variables, and improved rating scales are the reasons for this belief.

(5) *Finally, the increased attention to the psychometric properties of the measurement instruments used.* Until recently, every time the faculty of a school or college wished to evaluate the clinical competence of its students, a new form was designed without much attention to the work previously reported. This practice borders on anti-intellectualism.

In one of the most complete studies conducted on the instrumentation used in the evaluation of student clinical competence, Dielman, *et al* (1979), have provided a model to determine the psychometric properties of a clinical evaluation instrument. The steps employed in this study include: (1) a factor analysis to determine the underlying structure of the scales; (2) the computation of Cronbach alpha coefficients which indicate the internal consistency or reliability of the instrument; and (3) the computation of inter-rater agreement indicating whether or not a student's performance is seen and judged consistently by a number of independent raters. Study results indicated that the instrument showed a great deal of factor stability and internal consistency, and variable inter-rater reliablity depending on the rater.

A further step in the validation of any clinical assessment instrument would be correlations with known measures of clinical performance to determine the validity of the scale or the use of a multi-method, mult-trait validation technique (Campbell and Fisher, 1959), using numerous sources to evaluate the student's performance.

Teacher Evaluation by Students

Few areas of educational research generate the bulk that teacher evaluation generates. By 1974, research in the field of teacher effectiveness had resulted in more that 10,000 published studies (Dunkin and Biddle, 1974). Similarly, few areas of educational research generate the level of emotional feeling that teacher evaluation generates. Ratings are perceived by many faculty as a threat to their self-esteem and reputation, and perhaps, even to their careers.

With the current pressures on faculty and institutions to develop ways to document instructional effectiveness, however, the evaluation of teachers is here to stay. And, one important technique for judging teaching effectiveness is the evaluation of teaching competence by students. Although there is a smattering of studies reporting peer ratings, self ratings, and administrators' ratings of teacher competence, most of the literature deals with the student rater. Also, much of the debate about these evaluations is caused by the fact the students are the evaluators.

The purposes for evaluating teaching performance usually fall into four categories: as a basis for improving teaching; as a means of advising students on course or teacher selection; as a critical element in decisions about academic promotion, pay, or tenure; and as a criterion measure in research on teaching.

While discussions of the effectiveness of student evaluations for each of the above categories have been conducted, the single most important question is "How good are the data from student evaluations?" Are these evaluations accurate and the result of a thoughtful analysis of the teaching/learning process, or are they capricious, careless comments by some unthinking students?

Some have thought that the answer to this question could be found by correlating student ratings with the ratings of administrators, peers, and experts. I would like to analyze this question in terms of the reliability and validity of the rating instruments and what research has to say about using students as raters of instruction.

Sources of Error

Any kind of rating instrument or test is subject to measurement error. Two examples of measurement error that are frequently found in student ratings of instruction are the so-called "halo effect" and the "leniency effect." The "halo effect" refers to the raters' tendency to allow their ratings of a specific course or instructor to be influenced by their overall impression of the teacher and the classroom experience. Because it blurs specific ratings, the halo effect diminishes the capability of the ratings to be diagnostic in pinpointing problems for course improvement. The "leniency effect" refers to the tendency of raters to be a bit too generous in their evaluations. Raters subject to the leniency effect give the teacher too much benefit of the doubt. While the halo effect diminishes the ability of an instrument to be diagnostic, the leniency effect can produce problems in almost any kind of evaluation.

Regarding measurement efforts in ratings, one of two assumptions can be made. The first is that the error is not the result of a deliberate failure on the part of the raters, but rather is a result of a poorly constructed or ambiguous rating scale. Better ratings, therefore, should result when the rater can honestly answer questions on a scale about behaviors that can be observed. Rating scales that meet this standard usually result from the collection of critical incidents or examples of good and poor teaching behavior from people who are representative of those who will ultimately use the scales.

The second assumption regarding the source of error is that the raters themselves are in error. Sources of error attributable to the raters include instances where the raters have not had the opportunity to observe what they are being asked to rate or when the raters find the questions offensive or irrelevant. Further sources of rater error are introduced when the raters' memories of the incident are diminished, or when they are simply careless or tired, or in an especially good or bad mood. Under these circumstances, the reliability of the ratings may suffer.

Thus, there are many possible sources of errors that can be introduced into teacher evaluations by students. The sources of error can be attributed to the instrument or the rater. But what is the evidence that ratings are unreliable and that errors are introduced into the rating?

Instrument Reliability

A number of studies have been conducted in which the reliability of an instrument has been calculated. The data from these studies indicate that the reliability (internal consistency) of the ratings is very high. This is especially true when standardized forms are used. Correlation coefficients of .80 or .90 have routinely been reported when 20 or more student raters are included in the study. In one study that examined the internal consistency of peer ratings (Hildebrand, Wilson, and Dienst, 1971), 119 faculty members rated 84 previously-identified "best" instructors. Items which required the rater's attendance at lectures or seminars were excluded. The internal consistency correlations (Cronbach's alpha) of the scales used ranged from .65 to .86. These internal consistency coefficients are somewhat lower than the values that are usually found for student ratings.

In a summary of the research on the reliability of student ratings, Blackburn (1971) indicates that "correlations of 0.9 and higher are common." He also says that "student ratings seem to be quite stable over both short and long periods of time." In studies that acquired ratings of the same teachers by current students and alumni, very high correlations are reported.

Stability, or retest reliability, is a measure based on rater agreement over time. In a typical retest study, the questionnaire is given twice to the same people, the administration being separated by some period of time. To the extent that the ratings are equivalent for both sessions, the instrument is said to be reliable and the data are identified as stable. A high correlation between the results of the two administrations indicates that there is a small degree of random error in the ratings. Stability and internal consistency, which is typically measured by Cronbach alpha coefficients, are independent of one another. A rating instrument is reliable only if it has both internal consistency and test-retest reliability.

An analytic problem in conducting test-retest studies on student ratings is created by feedback to instructors. If an instructor received feedback following the first administration of the rating form and no change in teaching effectiveness occurred, the results could be interpreted as indicating that the scales had high reliability but that the instrument was useless for improving teaching. On the other hand, a change from one administration to the next could indicate low reliability of the instrument but greater usefulness in changing teacher behavior. One suggestion is that to study the stability of ratings, videotapes of lectures should be evaluated on two or more occasions by the same people.

Based on the numerous studies that have been conducted to determine the reliability of student rating forms, what conclusions can be drawn? First of all, even though in most studies there have been no efforts to increase or assure the stability of student ratings, the data seem to be relatively free from random error. The internal consistency and test-retest coefficients tend to be above .60. As noted earlier, there are some systematic errors in these ratings, attributable to the halo and leniency effects. The impact of these errors, however, is not great. In summarizing his evaluation of these rating forms, Doyle (1975) indicates, "It would seem that student ratings gathered by means of any but the most poorly constructed rating scales will be sufficiently reliable to be used for course improvement purposes." He adds, however, that "using student ratings as a basis for personnel decisions is another matter. The reliability of measures used for this purpose must be greater than that displayed by the typical 'home-grown' rating scale. Both random error and systematic error need to be further reduced. The conclusion, however, is not to avoid using student ratings in personnel decisions, but rather to take steps to improve the precision of these measures."

Rater Reliability

Since the rating instrument is only one source of low reliability, some comment has to be made about the raters. Refined scales will increase the probability of obtaining highly reliable data. In addition to good instruments, one also needs motivated and capable raters.

A chronic problem when student evaluators are used to evaluate a teacher's performance is a declining response rate. Frequently, even when students are initially interested in conducting teacher evaluations, the response rate toward the end of the semester reduces to the point that the results are questionable. Having been vexed by this problem at the University of Michigan Medical School, an experiment in student evaluation has been conducted for the past two years which seems to have handled this difficulty.

Instead of requesting the entire class of students to evaluate the numerous teachers who are paraded before them in lecture halls, a randomly-selected group of students is identified for each large course. These identified evaluators are presented with the objectives for instructional evaluation and their cooperation is enlisted early in the year. Their role as evaluators is clearly defined and they either accept or reject that role. More than 90 percent of the students who are identified as evaluators decide to participate in the evaluation. Although a 100 percent response rate is still not achieved thoughout the entire year, the decline in response as the course progresses is much less than when the entire class is used in the evaluation.

Because the students are identified randomly, they represent the class as a whole and no systematic bias is introduced. This year we are enlarging the study to include correlations of the evaluation of the selected group of evaluators with the entire class and with a group of educational experts using the same evaluation form as the student raters.

Other techniques to increase rater competency include allowing the raters to practice rating, thus providing them with some warning as to what items they will use to evaluate the teachers and alerting them to the kinds of errors to which their ratings are subject.

Peer, Administrator, and Self Ratings

Although there are very few studies which compare the reliability of ratings by supervisors, peers, and students, the few studies that are relevant suggest that peer, administrator, and self ratings gathered on well-constructed rating scales are probably no more influenced by random error than student ratings. They may, however, be more subject to systematic error and, in particular, error attributable to the leniency effect.

This finding should not be particularly surprising, since one might reasonably expect that a greater degree of leniency would be obtained from one's colleagues and administrators than from one's students. Further, peers and administrators are frequently put at a disadvantage by having to rate behavior that they have had little opportunity to observe.

Self ratings, though useful for instructional improvement purposes, are too subject to bias to provide information for anything other than instructional improvement. Doyle (1975) concludes: "Until empirical evidence argues otherwise, data of these sorts (colleague rating, administrator rating, and self rating) should only supplement student ratings, and because much more is known about student ratings than about other kinds of ratings, in case of conflict between information from students about a person's instructional effectiveness and similar information from colleagues, administrators, or the instructor himself, the burden of proof lies with the latter."

Instrument Validity

Having examined the reliability of student ratings, our exploration of their psychometric properties is not complete. Reliability is essential, but it is not sufficient evidence of the usefulness of student ratings. Ultimately, the validity of the instrument must be determined. Classically, validity is defined by the extent to which an instrument measures what it purports to measure. Another way of referring to validity is the "meaning" of the instrument. Typically, studies of validity correlate the results of the instrument with accepted validity For instance, ratings of verbal fluency might be objectively validated against the frequency of polysyllabic words spoken in a given period of time, or the ability to stimulate student interest could be measured against physiologic responses, such as galvanic skin response.

Studies that directly measure the validity of an evaluation instrument are relatively few in number. For example, a study conducted by Elliot in 1950 correlated the student ratings of chemistry teachers' knowledge of chemistry with the scores the instructors obtained on achievement tests taken prior to the start of the semester. For the laboratory instructors, the correlations were positive, but not significant (.30). For the recitation instructors, the correlation was a positive and significant one (.40). The reported result was that students in the recitation sections could detect the instructors who knew more about chemistry and those who knew less In another study conducted by McKeachie, Lin, and Mann (1971) at the University of Michigan on introductory economics courses, ratings between the instructors' effectiveness in changing students' beliefs and an objective measure of the students' beliefs about economics correlated positively and significantly (.44).

Another way to determine the validity of student ratings is to correlate student ratings with student achievement. A wide range of studies have used this method for assessing the validity of rating scales. One of the more controversial was reported in *Science* in 1972 by Rodin and Rodin. In this study, which is frequently criticized for its methodological shortcomings, the Rodins maintain that the students rated most highly the teachers from whom they learned the least. This study is contradicted by numerous other studies that indicate a positive correlation between the rating of instruction and the learning obtained by the students. For a sample of these articles, refer to Kenneth Doyle's book, *Student Evaluation of Instruction* (1975).

What do all these studies tell us about the validity of student ratings of teaching? Doyle (1975) asserts: "There is no acceptable basis in any of these studies for accepting the hypothesis of a negative relationship between ratings of overall instructor ability or effectiveness and learning-oriented criterion measures." Of the numerous studies conducted to correlate the outcome of learning with student ratings, the data produced fairly consistent, low-to-moderate level, positive correlations between general ratings of teacher effectiveness and student learning.

What about the effectiveness of the rating scales on producing change in instruction? This question cannot be answered for rating scales in general, since the specificity of the items in the scale determine its diagonistic ability. The evaluation of instruction for improvement requires specific diagnostic information that emphasizes those aspects of instruction in need of improvement. It is my belief that since the nature of the learning environment, the specific strengths and weaknesses of the teacher, and the needs of the students vary across instructional settings, scheduling of the evaluation and the details of some questions should be determined by the teacher. If diagnosis of instructional problems is the goal, and if an instrument of high specificity is selected, student ratings can produce improvements in teaching.

Rater Feedback

In addition to the specific information on the instrument, the method of feedback to the instructor is also of importance in producing instruction change. A frequently encountered difficulty in the evaluation of teaching competence is the comment that the data obtained are superficial, insignificant, or not helpful to the teacher. These comments most frequently come from teachers who are evaluated in something less than the top 10 percent of their peer group. An interesting approach to the solution of this problem and the problem of feedback to teachers is to reduce the amount of paperwork and increase the amount of interpersonal communication. An important attribute of the University of Michigan study described earlier, with randomly-identified students as evaluators, is the use of a personalized system of feedback to the teachers. At the end of a professor's teaching assignment, the student data are collected and a small group of students (usually two or three) meet and prepare a summary of the faculty member's presentation. These students then meet with the faculty member and personally communicate three aspects of their evaluation: (1) things that were done especially well by the teacher (an extremely important part of the evaluation), (2) aspects of the teacher's performance that could stand improvement, and (3) other suggestions or comments the students would like to make to the teacher. A follow-up interview with 70 teachers who were evaluated in this way indicated that only one teacher did not think that the evaluation was accurate and that he would not benefit from this sort of feedback.

It should be noted, however, that others doing research with personalized feedback to faculty members have reported that the leniency effect operates to a limited extent when the students are required to present the data to faculty members face to face. I do not find this outcome surprising, but I do believe that the face-to-face communication between students and teachers does increase the probability that improvements will be made in the teaching process.

Turning from the validity of the instruments for improving instruction to the validity of the instruments for personnel and administrative decisions, the situation here seems somewhat less complex. When using student ratings for administrative purposes, the specific detail required in diagnostic uses is not necessary. The summary statements that are created as a result of student evaluations seem quite consistent and are correlated with student achievement measures. Since personnel decisions are aided by general summary evaluation statements, student evaluations seem ideal for this purpose.

In summary, the data generated by student evaluations are useful in the diagnosis of instructional problems. They are limited only by the precision of the evaluation instrument used. For personnel and administrative purposes, student ratings are as useful as colleague, administrator, and self ratings. Whether colleague, administrator, or self ratings are more or less meaningful than student ratings has yet to be determined. To my knowledge, no study has yet compared colleague, administrator, or self evaluations to any kind of student outcome measure.

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Response to "Research on the Evaluation of Health Science Students and Teachers": A Nursing Viewpoint

Jean A. Kelley
Assistant Dean
Graduate Program
University of Alabama
in Birmingham

Dr. Davis's paper centers around two interrelated concepts: evaluation and measurement. Evaluation is a three-step process similar to nursing diagnosis: (1) observation — seeing, conferring, reviewing, searching, and testing impressions; (2) interpretation — giving meaning to one's observation, considering all factors in the evaluation situation, sometimes seeking additional information, sometimes discarding information and giving priority to other information; and (3) judgment — tying information together by establishing relationships and associations and reaching a conclusion that has a degree of acceptability or suitability.

Evaluation is an attempt to determine the degree of movement or change. It provides feedback to the student, teacher, administrator, or program on the quality of performance.

To determine the degree of change or quality, one must measure phenomena by a variety of means. Evaluation, therefore, implies measurement. However, measurement indicates a precise, objective appraisal of value, while evaluation tends to mean a more relative, flexible appraisal in terms of certain standards. Dr. Davis indicates that by strengthening instrument design, one may strengthen measurement in the evaluation process. In particular, the measurement of teaching and the measurement of learning.

Teaching is viewed by Guinnee (1978) as "a system of actions designed and intended to bring about learning," while "learning is a change in behavior in individuals as a result of experiences." Teaching provides for and facilitates learning experience; its outcome is instruction and observable learner achievements. Evaluation of the outcomes of instruction and teacher effectiveness in nursing may be done for a variety of purposes (Rezler and Stevens, 1978): (1) to determine expected behavior, i.e., product or process-oriented evaluation; (2) to determine learning during and/or at the end of a course, i.e., formative and summative evaluation; (3) to select an applicant for entry into nursing; (4) to place an individual at an appropriate level of learning or practice; (5) to maintain standards for retention, progression, graduation, certification, or licensure; (6) to help motivate learning; (7) to determine educational needs; (8) to determine an individual's performance in terms of organizational goals, i.e., promotion or transfer; and (9) to improve instruction.

Dr. Davis is concerned primarily with determining expected clinical behaviors and improving instruction. The other major purposes of evaluation are as important and in need of more precise measurement and require rigorous research.

Evaluation of Clinical Competence

What is Competence?

The first principal point that Dr. Davis addresses is the evaluation of clinical teaching or clinical competence, which he describes as being a time-consuming, problematic act that is necessary to certify to the public the competence of future practitioners. Argyris and Schon (1974) have questioned whether professional schools should prepare students for competence on the first job, asserting that this is education for obsolescene, or for competence to continue to learn, as this is education to maintain competence for future practice. Moreover, some professionals are not expected to become competent until after graduation, such as lawyers and architects. For them, competence for practice is acquired after entry into practice. In order to evaluate clinical competence accurately, nursing needs to reach agreement on what is competent professional practice for the nursing student and how is competence to be acquired, so that nurses can design appropriate instruments to measure both progress and quality. Nursing education and service need to agree on a description of competence for entry into practice and then design better tools for its evaluation.

Argyris and Schon (1974, p. 143) stated that "professional schools are accused of being preoccupied with old to the exclusion of emerging competencies." A profession needs innovators to improve practice and to clarify the professional's role in society, yet students of nursing are measured and rewarded for demonstrating old, tried-and-true competencies rather than for new ones. Whatever clinical competence in nursing means today, its meaning will change. According to Argyris and Schon (1974), future professional competence will require students of nursing to develop their own theories of practice for the real work setting. Future practitioners will be expected to act according to their theories of action, to reflect on the consequences of their actions, to relate professional acts to a multitude of variables in their behavior, and to determine the effect of their behavior on the world of health care delivery. Do our present methods of clinical instruction and evaluation provide for precise measurement of clinical competence for the initial job or for potential practice as a competent professional?

What is the State of Research?

A recent review of selected nursing research in the area of nursing education conducted by two doctoral nursing students (Awtrey and Skipwith, 1979), enrolled in a course in theory development and research in nursing at the University of Alabama in Birmingham, supports Dr. Davis's conclusion that the literature on evaluating clinical competence abounds with opinions, not research. The students assessed the current state of research in nursing education by reviewing and analyzing research reports appearing in five major nursing journals from 1970 to 1978.

The publications were the *Journal of Nursing Education, Nursing Educator, Nursing Outlook, American Journal of Nursing,* and *Nursing Research.* The assessment did not include two new publications: *Evaluation and the Health Professions* and *Research in Nursing and Health.* Each article, which was identified by stipulated criteria as a research report, was analyzed for its approach, purpose, hypotheses/study questions, and framework. The results of the analyses revealed a total of 178 articles, with 125 or 70.2 percent in *Nursing Research,* 35 or 20 percent in the *Journal of Nursing Education,* 15 or 8 percent in *Nursing Outlook,* 2 or 1 percent in the *American Journal of Nursing,* and 1 or .5 percent in *Nurse Educator.*

Categorization of the research by content area showed that 73 or 41 percent were related to students, 27 or 15 percent were concerned with teaching strategies, and 17 or 9.5 percent were faculty related. The descriptive approach was the methodology used most often (135 or 76 percent of the publications), while the expermental approach was used in 42 cases or 23.5 percent, and the historical approach was used one time for .5 percent. Hypotheses or study questions were posed for almost every research report. However, few studies were based on an explicit theoretical or conceptual framework. Typical examples of nursing research studies in the area of nursing education related to students were:

"Evaluation of the Development of Creative Behavior in an Experimental Nursing Program," *Nursing Research,* Vol. 19, No. 2 (1970), 100-107.

"Competency of Nursing Graduates in Teaching, Communication, and Administration Skills," *Nursing Research,* Vol 27, No. 2 (1978), 121-125.

"Core Competencies of Master's-Prepared Nurses," *Nursing Research,* Vol. 27, No. 1 (1978), 48-53.

"The Process of Clinical Judgment in Nursing Practice: The Component of Personality," *Nursing Research,* Vol. 25, No. 4 (1976), 268-272.

This review and analysis of nursing education research published in five major journals indicated that not only are research studies on the evaluation of clinical teaching small in number, but the number using a theoretical or conceptual framework is also small. If nursing research is to help educators and practitioners assess the state of nursing education, build a body of knowledge about nursing, develop more adequate and valid theories about nursing, and provide clear-cut conclusions to pressing problems in nursing practice and education, then nursing research should be based on, use, and test appropriate theoretical frameworks. Otherwise, nursing will continue to be based on trial and error methods rather than reliable knowledge which can be organized, codified, and used to predict and prescribe nursing phenomena.

Is There a Model for Clinical Instruction?

A third major point made by Dr. Davis is that the literature on evaluation of clinical competence deals primarily with evaluation of content, not evaluation of instruction. The literature tends not to discuss how the techniques of teaching nursing practice are measured. To measure the effectiveness of clinical instruction requires a model for teaching competence. Greer (1978) writes that teaching is a controlled problem-solving process. It involves a series of qualitative problems and their resolution. A teacher is like the artist who is faced with a blank canvas that can be shaped either into a masterpiece or a static reproduction. The teacher works within the learner's thoughts and gradually, through a series of qualitative problems, builds solutions to learning nursing practice. This qualitative problem-solving process must use a theoretical framework if evaluation of clinical competencies is to be approached in a systematic fashion.

The Ecker Model (Greer, 1978, p. 163) presents six stages in the act of teaching competence that could be used to develop relevant evaluation tools: (1) presenting relationships, (2) substantive mediation, (3) determination of pervasive control, (4) qualitative prescription, (5) experimental exploration, (6) conclusion of total quality. Argyris and Schon (1974, pp. 164-170) introduced a Model for Increasing Professional Effectiveness that has three stages: (1) techniques and arts of nursing practice, (2) techniques and arts of the practice setting, (3) interpersonal theories. As the learner interacts in these three stages, professional behaviors may be observed and rated based on expected levels of competence.

With a framework for clinical instruction, more relevant instruments and methods designed to evaluate the knowledge, arts, and skills of nursing practice can be devised, selected, and used. Without a framework, evaluation of clinical competence will remain a fragmented, costly, and awkward process with only occasional sparks of reliability and validity.

Implications of Trends in the Certifying Role of Faculty-Evaluators

1. Evaluation Based on Behavioral Objectives

Dr. Davis stresses the importance of linking evaluation to behavioral objectives so that students know the what and where of their appraisal. Many nurse educators are overtrained in the Mager Method of writing behavioral objectives. However, they are also, in the words of Dickoff and James (1974), guilty of two philosophic sins: (1) They tend to give considerable thought to constructing exquisite behavioral objectives, but then do not use them to evaluate students — this is known as the sin of Thought Without Action. (2) They tend to know about the learner's clinical competence by divine revelation, by drawing inferences about students without evidence — this is known as the sin of Action Without Thought.

The evaluation of clinical practices should be based on the student's competence in applying the nursing process. If the purpose of nursing education is to develop a *holos homo studens* (holistic-man-the-learner), then the learner must have the opportunity to master the cognitive, affective, and psychomotor behaviors that nursing requires for practice. Subsequently, appropriate methods should be devised to evaluate expected professional behaviors.

Reilly (1975, p. 145) stressed that clinical practice is a developmental process and the focus of its evaluation should be on "growth toward mastery of practice." Furthermore, a variety of methods are available to make adequate judgment on the learner's development. Whatever evaluation methods are selected, Reilly urged that they should "discriminate between theoretically based practice and that which is intuitive or imitative." Reilly also identified three major classifications for the evaluation of clinical practice and cited several methods: (1) observational methods, which include the use of anecdotal notes, critical incidents, and rating scales; (2) written communication methods, which include nurses' progress notes, problem-oriented records, nursing care studies/logs, and process recording; and (3) oral communication methods, such as nursing-patient care conferences and nursing team conferences. With each classification cited, Reilly illustrated a clinical practice behavioral objective and an evaluation procedure which described the behavior to be learned, the conditions under which the learner would perform, and the stipulated criteria for demonstrating competence.

One last caution about behavioral objectives is in order. If nurse educators believe in the summary and recommendations of SREB's Nursing Curriculum Project (1976) that "there are different levels of practice" within primary, secondary, and tertiary care, then evaluation of nursing students should be based on sets of common competencies characteristic of each level.

2. Clinical Evaluation Improves Instruction

Dr. Davis suggests that educators separate grading from clinical laboratory practice. Students of nursing should be given opportunities to practice in clinical laboratories. They should be given time to develop and master expected competencies. Students and faculty also need a chance to practice collaboratively and to provide each other with instant feedback so that practice and teaching skills are further improved. This is often done on the graduate level where student and faculty serve as co-consultants to nursing staff or faculty and where they make nursing rounds together to share observations, discuss possible interpretations of data, and reach mutually agreed-upon nursing diagnoses, goals, and prescriptions. This needs to become a more common practice at other levels of nursing education. In addition, regular use of a conceptual framework in teaching clinical practice could lead to earlier case findings of instructional problems.

3. Observer Training Increases Ratings Reliability

Nurse instructors could use training in observational skills to increase inter- and intra-rater reliability. Accurate evaluation ratings require use of the three-step process described earlier: observation, interpretation, and judgment. It is not a process of judging first and then searching for the facts to back up nursing decisions. The recent curricular emphasis on patient or health assessment skills has helped improve the observational skills of students and faculty. Its integration into nursing curricula was one of the great curricular accomplishments of the Seventies. In the meantime, Dr. Davis gives clear direction to future faculty development programs which are designed to improve observations and ratings of nurse behaviors.

Dr. Davis also mentions a problem observed in medical schools where two sets of instructors — classroom and clinical faculties — evaluate students. Inter-rater reliability among classroom teachers was found lower than for the clinical faculty. Schools of nursing today do not usually have two sets of evaluators. One nurse faculty member is expected to play both certifying roles with an average assignment of 10 students, while medical faculty may have a reversed ratio, such as two instructors for every student. At an earlier time in history, nursing had an evaluation model similar to medicine. It had classroom teachers and head nurses to observe and evaluate student competencies. As nursing moved away from that model into a clinically competent faculty model, the problem with reliable ratings of student practices was under better control. As more practice settings adopt primary nursing as the preferred method of organization for the delivery of nursing care, the primary nurse may be in a better position to rate a student's clinical performance than nurse faculty. The problem with evaluation in medical schools may resurface in schools of nursing unless faculty become role models for nursing students in primary nursing.

4. Increased Use of Simulation Techniques

Confronting problems through simulation techniques that require a sequence of responses can be effective means to instruct and evaluate a student in four essential components of professional competence: (1) observational and interpretative skills; (2) problem solving and clinical judgment; (3) interpersonal skills; and (4) technical skills (McGuire, 1978). Dr. Davis notes that simulation techniques as a means of evaluation have inherent problems with validity, not so much with content as with prediction; that is, high scores with simulation problems do not assure success with actual practice. Simulation has the distinguishing features of (1) initiating reality-based behaviors; (2) forcing the active participation of the learner; (3) providing feedback that could correct instructional problems; and (4) causing decision making by the learner that may in turn modify the simulation situation. Simulation has the advantages of (1) recording and storing the student's responses; (2) greater content validity than "conventional tests, perceived relevance, and educational impact" (McGuire, 1978); (3) providing "a more adequate sampling of behaviors and yielding more reliable ratings" of professional competencies than evaluation in the clinical setting (McGuire, 1978); and (4) being a means of instruction and assessment when access to the real nursing world is unacceptable, unfeasible, inconvenient, and wrought with discomfort and risk for the client.

To me Dr. Davis's belief that the advantages of simulation overshadow its validity problems is not difficult to accept. However, with all its advantages, some caution with simulation should prevail. Three major cautions with simulation technology are that it should assure that (1) cognitive, affective, and psychomotor skills (not just cognitive skills) are initiated and mastered; (2) innovations with simulation be developed and researched to find the ones with both content validity and predictive validity; and (3) it prepare students for the rigors of nursing practice.

5. Increased Attention to Psychometric Properties

Instruments which attempt to control measurement error through adequate design and the appropriate conceptualization and operationalization of the measuring items are needed to evaulate competence in nursing practice. Conducting and publishing research on instruments that assess nursing competencies is essential. Ward and Felter's (1979) recent compilation, description, classification, and evaluation of 198 instruments used in nursing education research is a beginning. Nationally and regionally, nursing must search for and share with others valid and reliable instruments for evaluating competence in nursing practice.

Evaluation of Teacher Competence

In 1972, Miller wrote that considerable research has "demonstrated that student evaluation is a useful, convenient, reliable, and valid means of self-supervision and self-improvement" for the teacher. Of four purposes for teacher evaluation cited by Dr. Davis and Miller, that of feedback and guidance for improvement tends to get the least attention. McKeachie (1971) found in an assessment of five studies dealing with student ratings of teacher competence, that student ratings do hold some validity. Not only has research shown that student evaluations have "goodness," but intuitive evidence has also told us so. This "felt-validity" occurs when a teacher evaluation tool is used over a period of time and a number of teachers who are recognized by their peers as master teachers receive high scores on the evaluation tool; then the form acquires *de facto* validity. Using intuitive or gut evidence to help determine an instrument's validity should not be ignored.

While discussing the quality of student evaluations, Dr. Davis identifies measurement errors due to the halo effect, the leniency effect, and poor instrument design, as well as rater error due to nonobservation of behaviors or emotional reactions. To these, I would add a rater error known as the restricted effect. O'Shea and Parsons (1978), reporting the results of a survey, noted that students, as raters of the behavior of teachers as role models, defined and rated that competency in a more restricted way than faculty. That is, students saw and rated only the action component of the teacher's role-modeling behavior, not the cognitive or reasoning component, while faculty viewed and rated both the action behavior and thinking component of role modeling.

Moreover, an ethical dilemma with reliability was identified in teaching evaluation, where, through subsequent testing, faculty get feedback, improve, and develop professionally, and then lower reliability for the instrument occurs. No solution to this dilemma was offered other than to view videotapes of lectures. Not all competent faculty are comfortable with videotaping. Some are masterful teachers except before a TV camera or tape recorder. Also, how would you manage the institutional review board, with its thorough individual and institutional consents, in order to videotape faculty effectiveness in the practice setting?

To achieve reliability in teacher rating instruments, we are told to control random and systematic error. As these two types of errors encompass the greatest percent of concern in psychometric evaluation, that is no small undertaking. In addition, students who rate teacher effectiveness develop a chronic condition known as dropout. Dr. Davis suggests that the declining response rate by student evaluators could be solved by randomly selecting a small group of committed student evaluators, training them to be proficient in evaluation, and charging them with delivery of personalized feedback to the teacher. This means the student-evaluator becomes the bearer of good and bad news to teachers, who in turn will be evaluating them for a course grade. This is known as placing a student in jeopardy. Although this solution may reduce the problem of a declining response rate, it creates, according to my statistician-consultant, the additional problems of internal consistency and internal validity. Reliability is more statistically stable with larger numbers of evaluations.

Effective evaluation of student and teacher effectiveness depends on an adequate description of competence in clinical and educational practices in nursing, the design of instruments that are reliable and valid, and the use of methods that are relevant, reliable, and feasible in measuring effective and ineffective behaviors.

Challenges and Concerns

Evaluation of health science students and teachers is a complex challenge. It requires appraisers who have an open-minded attitude and who, by their observations, interpretations, and judgments, are answerable for the quality of instruction and teaching services provided. Moreover, a number of ethical issues that deserve recognition arise from evaluation (Anderson and Ball, 1978). They are problems of (1) an unsystematic approach to evaluation; (2) informed consent, threat, censure, deception, and undue pressure; (3) evaluator bias or corruptibility, i.e., evaluators who twist, brighten, or shade the results; (4) loyalty to the profession versus the public, i.e., what to do when positive results do not appear for a student or teacher with good intentions; (5) conflict in role relationships, especially when the student-evaluator is giving feedback to a teacher who will be grading him; and (6) reporting, publicizing, and publishing the results of evaluation, i.e., confidentiality and privacy.

Several final concerns in the evaluation of student and teacher competency emerge: (1) evaluation is inevitable and evaluators need to assure increased accountability for the quality of the instruments and method used (Miller, 1972); (2) extensive or elaborate evaluation methods could discourage innovative instruction; (3) informal evaluation is not to be discounted, for it may give guidance to the direction formal evaluation should take; (4) evaluation of new teacher-learner partnerships will require the design of new evaluation instruments and methods; (5) studies need to be done that match student outcomes to the instructional interactions and treatments used.

In conclusion, research on evaluation can be a positive force in shaping professional competence and increasing professional effectiveness in students and teachers of nursing. More valid and reliable means for evaluating student and teacher competence have the capability of producing data needed to design effective educational and faculty development programs in nursing.

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Research on Clinical Teaching Strategies and the Laboratory

Emilie D. Henning
Dean, School of Nursing
Florida State University

This paper is intended to give an overview of research specifically related to the laboratory and, in particular, to the clinical laboratory in nursing education. In general, a laboratory is defined as "an environment that provides opportunity for systematic observation, experimentation, or practice."* In nursing education, a clinical laboratory is defined as "a setting, such as an institution, community agency, or home, where learners, under faculty guidance, directly observe or participate in activities with clients, patients, and/or families, for the purpose of acquiring the cognitive and psychomotor skills specific to professional nurses" (Henning, 1974, p. 8). In contrast, a college laboratory is defined as an artificial or simulated setting in which learners practice, but in which patients or clients are not present. In spite of the increasing emphasis on the college laboratory in nursing education, the clinical laboratory has and will continue to be an intergral part of nursing education, just as it is essential to any applied professional program.

Despite recognizing the importance of clinical laboratory use in nursing education, there is a dearth of published research on the topic. A number of the texts on nursing curricula and teaching in nursing often ignore the clinical laboratory or provide little information on it, as in the case of Conley (1973, pp. 495-496), where approximately one page is devoted to laboratory instruction. Why is information on this important aspect of nursing education so limited? It is partly due to the fact that the clinical laboratory has been more or less taken for granted and only recently has begun to be studied. That is why it is so important that many of the nurse educators in the Nursing Research Development in the South project chose to study the clinical laboratory and the use of teaching strategies within that setting. They can make a great contribution to the literature in nursing education.

To date, most of the nursing research findings regarding the laboratory concept have resulted from doctoral dissertations and, consequently, were never published. However, Infante's (1971; 1975) in-depth analysis of the laboratory and her study of faculty perceptions and beliefs was published and has been a real contribution to nursing education. I suggest that investigators review her study before beginning any research on laboratory teaching.

Although my remarks are limited to studies in nursing, there are other practice disciplines which are also studying the use of the laboratory in their curricula. These include teacher education, social work, medicine, and dentistry.

Research Methods for the Laboratory

In reviewing the studies in nursing education specific to the laboratory and the teaching strategies used, I found that this type of research lends itself to surveys or quasi-experimental studies.

Researchers in the clinical laboratory must recognize that all variables cannot be controlled, that human subjects are being studied, and that unexpected events may affect the outcomes. It is my hunch that researchers

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*"Laboratory," *Webster's Third New International Dictionary*, 1967, p. 1260.

become interested in this subject because they are dissatisfied or concerned about what is happening in their teaching situations. This motivates them to think of alternative modes of teaching and select one to study. In other words, people are always looking for a better mousetrap.

By way of an example, let me tell you how I became interested in studying clinical laboratory teaching. While teaching maternal-child nursing in a baccalaureate program, I became very concerned about taking students into a newborn nursery, having eight or ten of them standing over the crib of a newborn and breathing on that infant, and subjecting the newborn to a variety of organisms from these eight to ten individuals. I knew full well that this infant's immunological response was not well developed. As I pondered this, I decided that videotaping could be a better way to do this initial introduction and examination of a newborn. I developed objectives, scripts, and eventually videotapes to introduce students to newborn care, incorporating principles of medical asepsis and theories about the physiological and psychological needs of infants which the students had already learned. When surveying students about the use of these tapes, I found that I not only protected the infants but reduced the anxiety level of students before the nursery experience. Obviously, more learning could then take place. Another result was that my role changed for an "anxious" supervisor of eight to ten students to a "less anxious" guider of student learning. Knowing what was expected of them and having a role model, was beneficial to the students' subsequent clinical laboratory performance.

Many researchers in this area are probably examining what they, as teachers, are doing or requiring students to do in the clinical laboratory. Some of the questions being asked are: Is the purpose of the clinical laboratory learning or doing? Could the purpose be achieved by using multi-media? Are the learners prepared theoretically for particular clinical laboratory experiences? How do we assist students who learn more slowly? Could this learning occur in a college laboratory (as opposed to the clinical laboratory) by simulation or students practicing on one another?

Seivwright (1968) studied the expectations of baccalaureate nursing students regarding clinical experiences in public health nursing and identified three purposes of the clinical laboratory:

(1) to give the student first-hand experiences with materials, objectives, methods, and conditions associated with the practice of his profession;
(2) to provide opportunities for the practical application of theories as hypotheses and observation and evaluation of outcomes;
(3) to furnish the student with empirical data on which he can base future action.

It has been shown that we in nursing tend to think of the clinical laboratory as *the* laboratory and forget the value of the college laboratory. With Seivwright's purposes in mind, we can begin to look at college versus clinical laboratory experiences for students and determine if consistency exists between clinical experiences and their purposes.

Characteristics of Essential Elements

A further review of the literature revealed eight characteristics of the essential elements of the laboratory: participation in activities of the profession, direct contact with human and material resources, learner involvement, guided experience, meaning for pointing out relationships, intellectualization, ego-involved experience — satisfying and challenging, and personal and social values for the learner. These characteristics were identified in both general and teacher education by several authors (Blair, 1953; Briggs, *et al.*, 1938; Sharpe, 1956). As they are discussed, you will see that some are applicable to both the college and the clinical laboratory and that they can be used to decide whether a particular activity requires laboratory experience and, if so, whether in the college or the clinical laboratory.

Participation in activities of the profession. There are some activities of the profession which the student could do in the college laboratory which would not necessarily require a client or a patient, and therefore, should not be planned as a clinical laboratory experience. There are other activities of the profession in which you do need a client or patient or at least another human being — for example, the teaching of proper and comfortable body positioning, for which it is awkward to use the Chase dolls. At Florida State, for example, several of the faculty found that if they used other students in the college laboratory in body positioning exercises, the practicing student and faculty received feedback from the individuals as to their comfort and how they felt they were handled.

Along these same lines, the faculty have developed "stations" in the college laboratory. These stations are usually complete cubicles representing a hospital patient's unit. Students are taught problem-solving using these stations and a patient situation. Two typical situations are a patient receiving an intravenous feeding in which the tubing is twisted or attached incorrectly and another situation which requires that vital signs be assessed. This incorporation of problem-solving and nursing skills is the focus of the beginning course and, it is hoped, aids the student in applying knowledge and skills in future clinical laboratory problem-solving experiences.

Direct contact with human and material resources. The classroom is used for teaching theory, but in an applied science, such as nursing, there comes a time and a need for the "laying on of hands" or the manipulation of equipment — thus the need for the clinical laboratory.

Learner involvement. This need for participation by the learner can be supported by basic learning theory, that is, being an active participant in learning is more effective than being a passive recipient.

A guided experience. The reason we have the faculty in laboratories is to enable the faculty member to guide the learners. Some persons use the verb, supervise, but to others in nursing this has a connotation of elbow supervision. Each faculty member has to determine what guidance is needed. For instance, if a faculty member recognizes that a particular student has a good understanding of concepts, principles, and problem solving, it may not be necessary to provide as much guidance as may be needed for other students who seem less sure about principles and their own abilities. These latter students may require more direction to prevent them from foundering and failing.

Meaning for pointing out relationships. If one believes that the clinical laboratory is for practice in applying theory, then content or theory should precede it. One should not expect students to apply theory they have not been taught or required to know. That is comparable to asking for the "impossible dream." This is a difficult dilemma, since instructors frequently overlook students' limitations and expect them to apply all the knowledge known to the instructor. Faculty have to be mindful of what the student is expected to know at a particular point in time and then require only a demonstration of that knowledge. In addition, this means that we begin to look at clinical laboratory assignments according to course expectations. This probably would eliminate the expectation that students in their first nursing course can give total patient care, but instead are to practice giving segments of care related to what they have been learning. Another example would be sending students to a clinical laboratory to administer injections prior to being taught the principles underlying parenteral administration. This certainly would be an inappropriate activity. There should be a relationship between theory and practice with the theory preceding the practice.

Intellectualization. This characteristic contradicts the sequence of learning which was typical of hospital diploma programs, where it was necessary to do a certain number of selected procedures or activities, such as OR scrubs, before a student was deemed proficient in those procedures. This infers equality of replication and depth of learning. It is questionable, however, whether a greater degree of knowledge resulted from 25 scrubs or 5 scrubs. Rather than numbers of experiences, greater attention should be given to the development of the intellectual processes within the learner. Does one learn from doing or do to learn?

One study that I reviewed (Fredrickson and Mayer, 1974) examined the problem-solving ability of nursing students. This twin study investigated the difference in problem-solving abilities of baccalaureate degree and associate degree graduates. The findings were limited to a small sample size (schools from one urban area) and revealed no significant difference between the two groups. More important, both groups used only the first three steps of the nursing process — definition of problem, collection of data, and postulation of solutions. Evaluation of solutions was not demonstrated. One then should ask, Was evaluation of solutions taught, and did students have clinical experiences which included evaluating care, and possibly, the revision of care plans?

A similar type of twin study (Allerman and Britten, 1975) examined students' perceptions of the relevance and use of the clinical laboratory in learning the practice of nursing. The investigators studied 163 baccalaureate and 276 associate degree nursing students from NLN-accredited schools in metropolitan New York and New Jersey. The perceptions of both groups in reference to the nursing process were that they most often practiced the behavior of gathering data, with less evidence of planning, implementing, evaluating, and revising nursing care.

Both of these studies present shocking results for nurse educators. Students, upon graduation and when employed in the practice of nursing, are expected to be able to use the nursing process in its totality. One then must ask, Have these graduates had the opportunity to develop their intellectual abilities and participate in the activities of the profession (the first characteristic)?

Ego-involved experience — satisfying and challenging. Many of you know of the study done by Fox, Diamond, and Associates (1965) to determine satisfying and stressful incidents for nursing students. The implications for nurse educators were many. One in particular was the need to provide feedback to students on their performance during laboratory experiences. They certainly need support, but they must also learn to evaluate themselves. Through this, they will not only gain satisfaction but also be motivated to sharpen their skills and knowledge before the next laboratory. Sometimes, it seems that nurse faculty lose sight of the need to encourage students.

Personal and social values for the learner. Only those experiences that have some relevance for the learners should be used. The Allerman and Britten twin study (1975) revealed that, based on the perceptions of students, the clinical laboratory was not personally relevant. Students reported little, if any, input into decisions concerning their clinical laboratory experience and a lack of correlation between classroom presentations and laboratory activities.

Essential Elements of the Laboratory

Another useful approach to the study of the laboratory is through its essential elements. These elements could be used to study either the college or the clinical laboratory or a combination of the two. Teaching strategies in the laboratory will interface with these elements as well. I will attempt to refer to significant research on these elements as we review them.

Perhaps one of the most important studies in nursing education was done by Zasowska (1967). She identified nine significant factors of a laboratory experience. She then completed a descriptive survey of faculty in selected baccalaureate programs to determine if the clinical laboratory experiences provided were based on the nine significant factors. She found little, if any, relationship between them.

Subsequently, Infante (1971) searched the literature and identified 14 essential elements of the laboratory. She then studied faculty in baccalaureate programs in New England to determine if their beliefs and activities correlated with these essential elements. Her findings showed that the faculty espoused beliefs consistent with the elements but did not support them by their activities. Clinical laboratory activities of students were very much oriented to caring for patients. Her conclusion was that, although there was a trend away from the worker-concept in baccalaureate programs in nursing, this approach still dominated the teaching-learning orientation considered essential for an educational program.

In a subsequent publication, Infante (1975, p. 22) classified these 14 elements under three categories:

(1) *Teacher responsibility-centered elements* — opportunity for patient contact, objectives for activities, competent guidance, individuation of activities;

(2) *Learner-centered elements* — practice for skill learning, encouragement of critical thinking, opportunity for problem-solving, opportunity for observation, opportunity for experimentation, development of professional judgment or decision-making, encouragement of creative abilities, provision for transfer of knowledge, participation in integrative activities;

(3) *Other-centered elements* — utilization of the team concept.

My own research (Henning, 1974) was based on a modification of Infante's 14 essential elements. Actually, they were condensed into 13, because two of them did not seem discrete. I used these 13 elements (opportunity for client contact, learner-focused objectives, faculty guidance, individual learning, opportunity for observation, opportunity to practice skills, promotion of critical thinking, encouragement of experimentation, fostering of creativity, opportunity for transfer and application of knowledge, provision for integrative activities, understanding of team concept, and development of professional judgment) in developing an instrument based on clinical laboratory activities. This instrument, in the form of a questionnaire, was designed to determine if senior students in baccalaureate programs perceived these activities as worker-oriented, learner-oriented, or a mixture of both. The questionnaires were completed by 725 seniors prior to graduation from 21 nursing schools throughout the country. The schools were selected through a stratified random-sampling process to assure that there would be representativeness.

The findings were rather surprising to me. The learner-concept was identified by a relatively high percentage of students. Thus, there seemed to be a movement away from clinical laboratory activities being perceived as work experiences. However, the students perceived their clinical laboratory activities as focusing on nursing care activities rather than learner objectives. Much faculty guidance was acknowledged. Another unexpected finding was the use of the college laboratory or other learning modalities for initial and continued practice of skills. But the students' perceptions also revealed common problems in nursing schools: clinical laboratory activities were not individualized, nor were they planned to complement theoretical course content. Care of the ill was a prevailing activity.

There is still a great need for research in nursing education in reference to each of these essential elements of the laboratory, as well as the teacher and learner classifications of these elements. Creativity, for example, is one essential element of which we know very little — including how to measure it in nursing, and how it is demonstrated by students in the laboratory.

Another element which could be studied in the laboratory is the development of professional judgment in students. This could be done through the use of hypothetical nursing situations or specially designed simulated college laboratory situations. A longitudinal study of selected students and their ability to make rational judgments would be another approach.

Now that I have discussed the essential elements of the laboratory, I would like to show how we can use these elements to teach nursing more effectively and suggest some areas where further study is needed. (In reference to teaching, the use of the laboratory in nursing education is poorly taught in graduate programs. This is inexcusable, especially in those programs which prepare graduates for the functional role of teacher. If faculty do not possess an in-depth understanding of the laboratory concept, how will laboratory teaching be improved?)

Teacher Activity and Behavior

Intrapersonal relations. There have been several nursing studies on teacher behavior. Glass's (1971) study examined the behaviors of faculty in the clinical laboratory in baccalaureate programs in Canada. Using grounded theory as the methodology, her major findings were that teachers are striving toward the development of an ideal professional nurse but that the "guest" status of nurse faculty in the clinical laboratory results in their major activity as acting as buffers between staff and students. Hence, the clinical teacher plays a tremendous role in public relations and diplomacy.

The art of questioning. This has been studied in the classroom, but it could also be examined in the laboratory. My own observations of faculty in the laboratory revealed that they are asking students what they are doing rather than why they are doing it. Students prepare lengthy care (case) studies, giving the rationale for their actions, whereas principles and concepts would be better applied if students' knowledge was sampled while in the laboratory. Should they be giving care if they do not know why they are giving it?

Planning assignments. We all recognize that assignments in the clinical laboratory should be based on the needs of the individual learner and the objectives of the course. But are they? Too often assignments are made on the basis of the types of patients or clients available or the interest of the individual teacher. Closely related to assignments is an examination of the kind of guidelines provided for pursuing an assignment. More frequently than not, it is telling a student what to do rather than validating what the student has judged as needing to be done. Teachers, therefore, are accused of doing more telling than teaching.

Instructor self-perception. Do the faculty members see themselves as teachers first and nurses second or just the opposite? The way teachers perform will depend on their perceptions of themselves. If they view themselves primarily as nurses, they may have a tendency to focus on patient care before student learning, even though student learning is the reason they are there. This is a difficult decision for many new faculty, especially those who were educated as clinical specialists and lack a proper understanding of the functional role of teaching gained by studying educational theory and a teaching practicum.

Evaluation of learners. Is the teacher evaluating the students' performances in reference to the objectives for each learner or on each one's ability to give total patient care? Faculty in the laboratory could be studied according to how and why they use selected essential elements of the laboratory concept, recognizing that the elements vary in simplicity and complexity. Some of the elements and how well faculty use them could then be studied early in the program while others could be studied at the program's termination.

Learner Activity and Behavior

Selection of assignments by students. Studies have been reported in which students participated in the selection of laboratory experiences. There have been different results from each of these studies, but in general, it was found that seniors were more effective in selecting clinical laboratory experiences according to their needs and the objectives of the course. Perhaps they had a better perception of what they knew and what they needed to know prior to graduation. Learner activities or behaviors could be studied in conjunction with selected essential elements of the laboratory.

Psychological stressors. This is the stress and the anxiety that nursing students experience while progressing through the program. Many faculty and some students still believe that nurses should never make a mistake. There are many situations in which one can err and a patient will not be harmed. We must overcome this orientation that a learner must do it right the first time — or else! The use of biofeedback, tutorial study, or group counseling may be effective ways of reducing this stress. There is little, if any, research on the use of the newer psychological modalities for reducing anxiety. Group counseling has been shown to be effective in reducing nursing students' anxiety about death (Redick, 1974).

Learner self-evaluation. Developing ways for learners to evaluate themselves can have long-lasting effects on their performance as professional nurses.

Combined Teacher-Learner Activities and Behaviors

Evaluation in reference to laboratory experiences is an area for joint exploration of teacher and student activities and behaviors. Who should participate in the evaluation process? How? What is the plan for formative evaluation? Do students participate in this? How is it accomplished? How frequently are evaluations given? A study to determine how students would react to having more frequent formative evaluations by instructors might reveal that students are less threatened at the summative evaluation conference. That, at least, is my hypothesis.

Another research area would be analysis of teacher-learner interactions. Is the teacher functioning in a guiding role? Is the teacher serving as a facilitator and a validator or as the traditional supervisor who always requires you to know the answer? The analysis of interactions has many implications for the teacher as well as the learner. The learner who is threatened by the teacher will probably be hesitant to seek validation from this teacher. In turn, the teacher may become less cognizant of how well the learner is performing.

Modes of Instruction

Mode of instruction is a large area in which much research has been done but in which much more can be done. Arnold (1975) studied three teaching strategies — lectures-discussion, programmed materials, and student-choice — to determine which was most effective for teaching "protection techniques to selected freshman associate degree nursing students." She found no difference in the responses among the three teaching strategy groups as measured by written and performance tests.

Is one mode of instruction more effective than another? Do some students learn more effectively from a particular method of instruction? In this era of multisensory stimulation, is multimedia a more effective learning modality? Do students gain greater satisfaction from discovery learning?

Modes of Learning

Research concerning learning theory has made great strides since the beginning of the century. The acknowledgment of educationally disadvantaged students in the 1960s has further stimulated this research. Now, there are efforts to match the mode of instruction to the students' learning style. Results seem to favor the use of multiple senses for effective learning. Thus, educationally disadvantaged students could become nurses if their learning style and type of instruction were compatible.

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Factors Affecting Faculty Development for Women in Higher Education

Beatrice R. Brooks
Associate Professor
College of Nursing
Northwestern State University,
Louisiana

Mary Ruth Fox
Nursing Program Head
J. Sargeant Reynolds Community
College, Virginia

Gretchen LaGodna
Associate Professor
College of Nursing
University of Kentucky at Lexington

Evangeline B. Lane
Professor of Nursing
Georgia State University

Norma J. Long
Associate Dean, College of Nursing
University of Tennessee at Memphis

Mary Ann Parsons
Associate Dean, College of Nursing
University of South Carolina

Ora L. Strickland
former Assistant Professor
School of Nursing
University of North Carolina
at Greensboro

In recent years, there has been an emphasis in higher education on professional growth through faculty development activities. Although most nursing programs have encouraged participation in faculty development activities by various means, research in this area has not been stressed. The purpose of this paper is to discuss some of the research which has been done on the nature of faculty development and on factors, particularly sex-role expectations, which affect participation among nursing faculty.

Approaches to Faculty Development

Faculty development encompasses those activities of faculty which are intended to promote professional growth. Francis defines faculty development as an institutional process "which seeks to modify the attitudes, skills, and behavior of faculty members toward greater competence and effectiveness in meeting student needs, their own needs, and needs of the institution" (1975, p. 720). In the framework of faculty development, the faculty member is viewed as a teacher, an individual, and a member of the educational institution (Phillips, 1974).

Several approaches to faculty development have been encouraged. Nadler (1976) stressed the use of public seminars, job rotation, exchange programs, and individual resource people as methods to facilitate faculty growth. Most faculty development programs offered by institutions consist of workshops, orientation sessions, and formal courses. Respondents to a survey by Bogart and Elson (1977) indicated that short workshops, conferences, and short courses are the most effective forms of faculty development activities, while a survey of 1,783 college faculty development programs (Centra, 1978) found that larger colleges and universities use more traditional development efforts, e.g., sabbaticals and temporary teaching load reductions; smaller colleges tend to use programs run by and for the faculty; larger two-year colleges and universities more often use instructional assistance via specialists in instructional development, audiovisual aids, or other instructional services; and assessment techniques, e.g., ratings by students, colleagues, and administrators, are most common among two-year colleges.

Several educators suggest strategies for faculty development. Ramsey and Holmes (1976) propose five: a floating workshop where faculty visit other schools; staff rotation or transfer of responsibilities; a student teacher center where faculty could work closely with a group of student teachers in a training/learning situation; short-term sabbaticals or general leaves; and external evaluations by an accrediting agency which alerts experienced faculty to current trends. Lewis Spitz (1977) advocates four broad approaches to faculty development: the personal approach (achieved on a one-to-one basis); faculty development programs (conferences, workshops, lectures, etc.); curricular changes (liberalizing courses in one department which leads to cooperative teaching situations among the faculty of various departments); and the humanities as a resource for faculty renewal ("to deepen and refine a more general responsiveness to life itself").

The programs that faculty have found to be most useful were those which built on the faculty member's interests, provided choices, promoted exchange of ideas among faculty, related qualities of newness or innovativeness, and occurred in the local institutional setting (Zigarmi, Betz, and Jensen, 1977). Likewise, the factors that Lawrason and Hedberg (1977) found necessary for success in "instructional" development were, in order of their importance: commitment by the institution, faculty rewards, skills of the instructional development staff, resources and facilities, evaluation of programs, faculty openness to change, student attitudes, and focus of the instructional development center. Rose (1976) advocates that faculty development activities should be related to measurable and meaningful results and to the goals of higher education, while other studies (Sagen and Youga, 1977; Strode, 1976/77) stress the importance of personal (humanistic) enrichment and its long-range effect on improved instruction.

Factors Affecting Faculty Development

Research that has been done on academic women and their world of work has yielded important data on factors such as sex-role stereotyping, family variables, career interest, and job-related variables, all of which may affect faculty development. Little research, however, has been reported about the specific effects of sex-role factors on the development and careers of women in higher education, particularly in female-dominated professions such as nursing. The rest of this paper will discuss the research done on the factors just mentioned and the implications for the professional growth of nursing faculty.

Sex-Role Factors

While little sex-role research has been carried out in predominantly female professions, several historical and theoretical analyses have emerged. Ashley (1976, 1980), Greenleaf (1980), and Grissom and Spengler (1976) present important historical and current analyses of the effects of women's socialization on the nursing profession and on the behavior and attitudes of individual nurses. Most of their opinions, questions, and hypotheses, however, have yet to be translated into research.

When exploring sex-specific traits and behavior, the social context appears to be a critical factor. This may be frequently overlooked in studying female-dominated professions, but would be the focus in sex-role research of the third and fourth types described by Hochschild (1973) — minority perspective and politics of caste. There is little research available using these two perspectives to deal with nursing; but there are several which should be replicated within the profession. Goldberg's (1968) study of women students' value judgments of male versus female intellectual and professional competence found a general bias by women against women, even in female professions. This study has not been replicated, using as subjects practitioners who are already socialized into male-dominated or female-dominated professions.

The sex-role identity of practicing nurses has been investigated (Simpson and Green, 1975) and also that of nursing students (Stromborg, 1976). The "paternalism" and "oppression" of the nursing role in hospitals has been discussed (Ashley, 1976), and a study of 1,998 married nurses in Detroit shows "family ideology" as a factor in the work patterns of nurses (Cleland, Bass, McHugh, and Montano, 1976).

Family Ideology

The family ideology held by a woman has an influence on her success in a professional career. Women who are bright, from upper-class backgrounds, whose mothers were college-educated (Angrist, Mickelsen, and Penna, 1977), and whose educated fathers encouraged them to achieve (Hennig, 1974), clearly display more liberated or equalitarian attitudes about themselves both as career-oriented professionals and family members (Rapaport and Rapaport, 1971).

Another interesting study of successful career women in management/executive positions (Hennig and Jardin, 1977) found that a majority were either only children or the eldest child of a group of female offspring, and that they showed the influence of an educated, encouraging father who "managed" their careers. These women either remained single or married significantly older, already-successful professional men, and had few children, if any.

A study of successful black professional women indicates that black women "seem to have acquired a sense of confidence in their competence and ability" and account for 60 percent of the graduate degrees in predominantly black colleges between 1964 and 1965 (Epstein, 1973).

The fact that the percentage of women on four-year college faculties declined in the 1960s, a decade of great expansion in enrollment, is reported by Howe (1975), and may or may not reflect conflict between family ideology and career demands.

Feldman (1973) found that 55 percent of the married women in graduate school had husbands with graduate degrees. If this group of husbands reflected more equalitarian attitudes toward sex-roles, as one might expect from other studies (Hennig, 1974; Bayer, 1975; Angrist *et al,* 1977), there would be less sex-role conflict and anxiety experienced by this group of married women.

However, a family must face its own special responsibilities. Research shows that for two-career families there are four outstanding problem areas: housekeeping duties, child-rearing, nepotism rules that require job priority decisions, and job mobility and advancement (Astin, 1969).

The two-career family indicates an emerging population trend with four family types identified by Poloma and Garland (1971): (1) The traditional family — husband is the breadwinner; wife's job is viewed by both as a hobby. (2) Neotraditional family — wife's job is needed to maintain family standard of living; husband helps with childcare and housework; his job requirements have priority in decision-making. (3) Matriarchal families — wives earn more than husbands and apologize for doing so; husband does not view himself as having a homemaker role. (4) Equalitarian family — childcare shared; homemaking shared; job priority varies according to "what's best for us all" and "what's fair to each career."

In our present society in which stereotypical sex roles are becoming blurred (Bem, 1974; Gaudreau, 1977), there is much criticism about the bipolarization of masculine and feminine attitudes. Studies based on bipolar masculine and feminine role-identity are by definition biased, that is, they require that beliefs about childcare, job mobility, value of a career, and housekeeping duties must be inherently masculine or feminine.

A more logical and unbiased approach would be to measure beliefs about childcare, job mobility, career priority, and housekeeping duties on a scale with traditional divisions into sex-role stereotypes on one end and equalitarian attitudes on the other.

Such a continuum might well be more appropriate in the study of the types of family ideology exerting influence on the nursing faculty member. It would certainly have explained the startling finding that nursing students with masculine attitudes were most in harmony with the image advanced by the profession (Stromborg, 1976), or that middle-aged professional females have become somehow more masculine as they aged from 40 to 60 (Neugarten, 1968), or that a study on nurses "in a university meeting" found 15 percent to be feminine, 19 percent masculine, and 38 percent androgynous in their attitudes (Simpson and Green, 1975), a "three-way split in the group that seems illogical at best and bizarre at worst."

The beliefs held by a family unit are influenced by the two adults who initially form the unit. Each of these persons has a set of beliefs about childcare responsibilities, housekeeping reponsibilities, and priority-value of his or her own career in family decision-making. Each spouse in a two-career family also has beliefs about the other's career, and these must be flexible and equalitarian if reasonable career development is to follow for either one.

Careers and Women

The word career has come to be used in a broad sense to "describe an individual's lifelong work pattern — the way in which the individual expresses self and relates to society through work" (Isaacson, 1977, p. 7). A review of career development in American women produces a sharp contrast to that of men in American society. The socialization process for males, however implicit, however unconscious, includes the assumption that they will work for most of their lives. This assumption gives "men an objective: to make the best of it that they can, which is widely interpreted as career advancement" (Hennig and Jardin, 1977, p. 40).

A first job is the apprenticeship. A man expects to master it and move on to another level (Hennig and Jardin, 1977, p. 41). The masculine identity is achieved by doing, whereas the feminine identity is achieved simply by being. Proof of maleness rests in a man's ability to perform certain tasks or rituals or activities in ways that are defined in American society. Proof of femaleness, in contrast, lies with the woman's biological capacity to bear and nurture children (Benoliel, 1975, pp. 22-27). Horner (1975, pp. 157-175) found evidence that when faced with a conflict between her feminine role and development of her personal talents, the competent and motivated female will adapt her behavior to the sex-role stereotype. Thus, women usually validate their feelings of esteem and identity by associating with such stereotypes. This perpetuates psychological dependence which may be functional in their relationships but is injurious to the self-concept of those who have internalized the values of the culture. Certainly, it is destructive to feelings of esteem to know that you are capable but that you are not using much of your capability (Bardwick and Douvan, 1971).

Evidence shown by Horner (1975, pp. 157-175) resulted in the controversial conclusion that women in American society tend to avoid achievement and success. They tend not to participate in certain roles or seek goals, since accountability and goal-setting are not a part of the usual female socialization process. Built into a usual process of female socialization is an orientation to the present rather than the future, which tends to project a dependent image (Dean, 1978, pp. 10-14). Dael Wolfe (1954, pp. 234-236) summarized some of the earlier studies of female noncompetitiveness in the work world. He concluded that

> taken at their face value these studies point clearly to the conclusion that the typical goal of an employed woman is not promotion and advancement in her chosen field. The strong wish is for marriage and a home. When that wish cannot be realized, continuation in the same or a similar job is a more frequent goal than is promotion.

Work done by Hennig and Jardin (1977, p. 40) has demonstrated a different career foundation and pattern for some women. In their study of 25 successful female executives, they found that these women were

> taught, encouraged, and supported by fathers, who expected them to aspire to and prepare for a career; who passed on to them their own view of a career as an integral part of a person's life: that they would work, just as a man would do, for the greater part of their adult life.

Each one had been the first child and there was no evidence that the fathers would have preferred a son. The fathers emphasized skills and abilities rather than any sex role. The results were successful women in successful careers.

Bailyn (1964) described several routes chosen by women who seek full-time professional activity. Some choose a career as a secondary course if unsuccessful in the primary female role. Others begin the typical female career but are forced to enter an occupational career when divorce, death, or separation from a spouse occurs. Some women are able to achieve some success in combining marriage and profession. Bailyn (1964, p. 709) made the following observation about the latter group:

> But no amount of success in her work will ensure a satisfactory life-style if there is strain in the woman's role in her family and community. And here the attitude of her immediate environment to her participation in professional work is crucial. The most important potential source of support or hostility is the husband, and his attitude must be a central factor in any empirical study of professional women. Less obvious, but also important, are the attitudes of contiguous groups such as neighbors, husband's colleagues, or the parents of one's children's friends, for these are groups to whom one's work role is highly visible and who serve as a constant reference for comparison and evaluation.

According to Bernard (1964), women in academics may be classified according to commitment, namely professional and fringe-benefit. The term "fringe-benefit" denotes someone of benefit but on the fringe of the profession. Professional and fringe-benefit women "differ basically in career motivation, reference groups, role conception, and levels of aspiration" (p. 100).

The frequent phrase from fringe-benefit women is that they do not have to work. They enjoy the praise of the women who serve as their reference group, that is, wives of other professors or businessmen who are impressed with their professional achievement, not female professional colleagues. Fringe-benefit women feel satisfied with their positions and pose few role problems for their male colleagues. Fringe-benefit women see themselves merely as teachers, not scholars or researchers. Similar to many working women, they enjoy their work but do not see it as a necessary career (Bernard, 1964, pp. 100-101).

Almost by definition, women in the fringe-benefit status are married. They see their role as wife and mother primary to their role as professor. Since they will usually only consent to work if their family approves, or at least is supportive, not many severe difficulties arise from their professional activities (Bernard, 1964, p. 215). Findings by Seyfried, Erickson, Crowell, and Ostmoe (1977, p. 695) have indicated an increase in the percentage of women with families seeking faculty positions in programs of nursing. This increase could have an effect on the number of fringe-benefit women and, therefore, an effect on faculty development methodology.

Job Satisfaction

There has been a continuing interest in the subject of job attitudes since Roethlisberger and Dickson published their summary of the Hawthorne research, *Management and the Worker*, in 1939. Their work was a primary impetus in turning attention toward studies of the worker as a "feeling and experiencing human being" (Neff, 1968, p. 135). In spite of a plethora of studies, there is still great controversy, not only about the roots of job satisfaction, but also about the definition and measurement of this concept.

Although the goal of the worker is to achieve some kind of satisfaction, the goal of the organization is for him/her to be productive. Is a happy worker a productive worker? Unfortunately, some researchers (Vroom, 1964, pp. 531-536) have found no relation between performance and satisfaction. Moreover, Vroom reported a median correlation of .14 between satisfaction and performance in numerous studies that he compared.

A recent position, based on reinforced theory, and advanced by Cherrington, Reitz, and Scott (1971, pp. 531-536), considered both satisfaction and performance to be functions of rewards. In their investigations, the rewarded subjects reported significantly more satisfaction than unrewarded subjects. In addition, when these rewards were given on the basis of performance, the subjects' performances were significantly higher than subjects whose rewards were not related to their performances. They found that when low performers were not rewarded, they expressed dissatisfaction, but their later performance improved. Conversely, when low performers were rewarded for their low performance, they expressed high satisfaction, but continued to perform at a low level. The same pattern of findings occurred with high performing subjects, with one exception — high performers who were not rewarded expressed dissatisfaction, and their performance significantly declined. When satisfaction and subsequent performance were correlated, excluding the effects of the rewards, the correlation was essentially zero.

If appropriate rewards can motivate a worker to higher productivity, how can an organization motivate its different employees who may have different types of needs? Lawler (1971) suggested that organizations might profit by implementing "cafeteria-style" plans. These plans allow individual employees to select any combination of fringe benefits they desire. Unfortunately, Lawler's plan focuses only on extrinsic motivators.

Much of the work in job satisfaction has been done in the areas of psychology and industry. Job satisfaction in faculty roles has received some attention in educational institutions. Marriner (1977, pp. 349-360) found a high correlation between job satisfaction and organizational climate. Work by Seyfried *et al* (1977, p. 692) supported research done by Marriner. The authors found that "the work itself" and "responsibility" were the reasons nursing faculty chose a particular place to work. Particular factors that nurse faculty found important were: opportunity to engage in research, available library and instructional aids, opportunity for educational leave, and continued education.

Though most faculty feel they are committed to self-development (Spitzer, 1976), several barriers interfere with the faculty development process. The most frequently cited barriers are time and resources (Grandjean, Aiken, and Bonjean, 1976; Sommers, 1977; Spitzer, 1976). Involvement in faculty growth activities has also been thwarted by the lack of adequate rewards for participation. Spitzer (1976) found that faculty viewed instructional improvement as the lowest ranking criterion for faculty advancement, and that a large proportion of faculty would be willing to engage in instructional development if appropriately rewarded. In addition, faculty perceived administrators as having minimal commitment to instructional development while putting over-emphasis on research and publication. According to Williamson (1972), faculty members who wish to enact a professional role — teach, research, learn, maintain autonomy — experience conflict with academic nursing programs because these often maintain the values of the hospital-oriented system (i.e., deans and directors as prime decision makers, central authority), curtailing faculty autonomy or involvement in decision making.

Conclusion

It can be concluded that many aspects of nursing faculty development are influenced by sex-role characteristics and expectations, family ideology and dual responsibilities, career values and patterns, available resources, and other factors peculiar to faculty in a female-dominated profession. Although each of these factors have been studied in academic women, few studies have focused on nursing faculty. Research designs must be developed that include considerations of these variables in evaluating faculty development efforts in nursing programs. Only then will accurate data be available to assist in planning appropriate faculty development strategies and in reducing barriers to participation in faculty development.

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Abstracts of Project Participants' Research*

Clinical Evaluation Criteria in Associate, Baccalaureate, Master's and Continuing Education Nursing Programs in the South

Penelope P. Arnett
University of South Carolina at Aiken

Karen Kay Esberger
Baylor University, Texas

Peggy Dahlhauser
Tennessee State University

Wealtha Collins McGurn
University of Maryland at Baltimore

Pauline R. Sommers
University of Southern Mississippi

Five researchers surveyed the content of clinical evaluation criteria used by 117 Southern associate, baccalaureate, continuing education, and master's nursing programs. Faculty members who were knowledgeable about their programs' curricula were contacted. One hundred twenty-nine questionnaires were returned from 44 programs, yielding a data base of 44 evaluation instruments containing 1,796 evaluation criteria.

Findings of this research indicate that six of 129 respondents were completely satisfied with their evaluation procedures; four were completely dissatisfied; and 104 indicated some degree of dissatisfaction, with low objectivity being the source of dissatisfaction for 52 and "too time-consuming" being the source of dissatisfaction for 37.

Of the 1,796 evaluation criteria, 959 (53.4 percent) corresponded with ANA standards of care, while the remaining 837 criteria were classified by the investigators in the following categories: organization (2.1 percent), communication (7.9 percent), leadership ability (4.2 percent), group participation (.4 percent), skills (4.0 percent), charting (1.1 percent), personal characteristics (15.9 percent), professional behavior (8.0 percent), and other (3.2 percent).

Findings

Of all the programs, 57 percent were satisfied or partially satisfied with their clinical evaluation tool, while only 40 percent believed their clinical evaluation tool was not objective. This, however, contrasts with the fact that almost half of the identified criteria evaluate personal characteristics rather than clinical competence, indicating far less objectivity in the evaluation instruments than previously supposed.

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*Abstracts of two studies were not available at the time of publication.

Objective Evaluation of Clinical Performance in Health Assessment

Marilyn Winterton Edmunds
University of Maryland at Baltimore

Enrica K. Singleton
Louisiana State University
at New Orleans

Mary Fry Rapson
University of Maryland at Baltimore

Shirley Steele
University of Texas at Galveston

The evaluation of clinical competence of graduate students continues to be a dilemma and challenge for nursing educators and practitioners. Master's programs are preparing two distinctly different levels of practitioners. The traditional master's programs profess to prepare nurses with knowledge and skills beyond those associated with the baccalaureate preparation of nurses, while practitioner programs profess to prepare nurses with advanced, in-depth, sophisticated skills associated with health assessment of clients. A vital ingredient to both levels is teaching and objectively evaluating health assessment skills.

One major advance toward evaluating the health assessment skills of students objectively and systematically is the New York Regents External Degree Health Assessment Performance Examination (HAPE). This examination defines specific critical elements in (1) history-taking, (2) performing a physical examination, and (3) recording, which must be exhibited to complete the examination at a baccalaureate degree level. HAPE was accepted by the current investigators as a model for developing critical elements for two additional clinical performance examinations for the two types of master's programs: an examination to measure performance at the end of an assessment course and another to be administered after a sequence of courses which integrate primary-care, adult-nurse practitioner content.

Using the HAPE as a model, three faculty in two schools of nursing were trained as evaluators to assess students' performance. Two examinations were developed, each containing over 300 critical elements. Student and evaluator guides were developed to accompany these examinations. Both examinations were given before and after the specified content was taught to students. Content validity was determined by a panel of expert judges at two schools. The examinations were piloted at Louisiana State University and at the University of Maryland with 36 students assessing adult clients.

Findings

Results indicate that criterion-referenced clinical performance examinations are valid tools for measuring the adult health-assessment skills of master's-level students. The statistical findings suggest several changes in critical elements to improve the examinations. Alterations have been made on the basis of these findings, deviating in many areas from the original HAPE examination. Correlations were made between students' perceptions of their skill level and their actual performance skill level. Findings showed that there was no association between perception and performance. Using student guides and testing students before teaching the content improved the teaching process, i.e., students knew exactly what was expected of them and studied the content vigorously and appropriately. The examinations have been placed in the curriculum of the University of Maryland Primary Care Nurse Practitioner Master's Program and research is continuing at this site.

A Comparative Study of Clinical Performance of Transfer and Generic Students Entering the Third Level of an Open Curriculum Nursing Program

Barbara L. Bullock
Samford University, Alabama

Phyllis Vaughan
Samford University, Alabama

This was a comparative study conducted to determine the clinical performance competencies of eight transfer and 16 generic students matriculating into the third level of clinical nursing at Samford University in Birmingham, Alabama. The purpose was to evaluate the feasibility of using the Clinical Performance Nursing Examination (CPNE) from the New York Regents External Degree Program in Nursing to diagnose the clinical learning needs of students entering the third level of the nursing curriculum.

The CPNE was developed with the nursing process as the framework, categorizing nursing activities into required, selected, and overriding areas. It was designed to determine the clinical competence of candidates for the associate degree in nursing. The required areas include personal cleanliness, vital signs, fluids, and mobility. The selected areas include such activities as suctioning, special skin care, sterile dressings, medication administration, and irrigations. The overriding area includes asepsis and physical and emotional jeopardy. The activities in the overriding area are observed as a part of the required or selected activities. Within each activity, critical elements are enumerated as are the criteria on which clinical competence is determined. For this study, students were observed while giving nursing care to a patient needing a minimum of three required and three selected activities.

The hypotheses were that the two groups would exhibit no statistical difference at the .05 level of significance in (1) overall clinical competence; (2) clinical performance in all areas of care; (3) clinical performance in the overriding area of care; and (4) clinical performance in the required area of care. In addition to the established hypotheses, data were analyzed to determine if the CPNE might identify specific clinical learning needs of students.

Findings

The first hypothesis was rejected when the data reflected that the generic group performed significantly better in overall performance. Hypotheses two, three, and four were retained. Using the CPNE, it was found that errors were made in all the activities, except emotional jeopardy.

While the study suggested that learning deficiencies existed in both groups, the difference illustrated by hypothesis one further suggests that students in this transfer group had greater difficulty in overall clinical competence than did the generic students. These findings suggest that the CPNE might be used to diagnose clinical learning needs at the associate degree level.

Measurement of Nursing Performance in Two Simulated Clinical Settings

Sally B. Crawford
East Tennessee State University

Helena McBride
formerly of the University of Texas at San Antonio

This descriptive research answers the following question: Given two simulated patient situations, what is performance on selected aspects of nursing? The independent variable was the use of two videotaped clinical simulations of patient-situations. The dependent variable was the score achieved by comparing written responses on six open-ended questions (data collection, planning, and priority-setting) with behavioral criteria. Each criteria was worth one point, each priority in proper sequence was worth three points.

The sample consisted of four groups of volunteer students, representative of their respective populations, who were from selected classes in a baccalaureate and an associate degree program. Group A_1 consisted of 25 females and three males entering a baccalaureate "alternate route" program; of these, 86 percent were RNs, 14 percent were LPNs. Group A_2 consisted of seven females from the same "alternate route" class one week prior to completion of the program; 57 percent were RNs, 43 percent were LPNs. Group B consisted of 19 females and five males at entry into the baccalaureate "generic" program; 13 percent were LPNs, 29 percent had experience as a nurse aide or corpsman. Group C consisted of 49 females and two males in an associate degree program one week prior to completion; 22 percent were LPNs, 51 percent had experience as an aide or corpsman. Group D consisted of 14 females and two males one to four weeks prior to completion of a baccalaureate "generic" program; 6 percent were LPNs, 56 percent had experience as an aide or corpsman.

The videotapes, demographic data questionnaire, student response sheets, and criteria for rating were researcher-developed. Content and selected construct validity were established by eight nurses — four baccalaureate faculty-experts and four RNs who practiced in the clinical settings simulated on tape. They viewed the tapes, took the test, and corroborated criteria by their written responses. Inter-rater reliability of the rating tool was established by Pearson product-moment correlation of scores from two pairs of raters on each of the six test sections. A pair of baccalaureate faculty independently rated 15 randomly-selected baccalaureate student-responses with moderate correlation on all sections. In addition, a pair of associate degree and baccalaureate faculty independently rated 15 randomly-selected associate degree student-responses with high correlation on four of the six test sections. A pilot study, done with baccalaureate students, helped to identify unclear test directions, inadequate performance time, and incomplete rating criteria.

Data were analyzed for frequency count and percentage. Group mean scores were analyzed and compared using analysis of variance and *t* tests (p .05). Since inter-rater correlation on the "priorities" section of the rating tool were low, results of analysis on those sections are questionable.

Findings

Group A_1 performed significantly higher on four test sections than Group B. Group A_1 also scored significantly higher on two test sections than Group C. This same finding was repeated in comparing Group A_2 with Group D. There was no significant difference from entry to exit of Groups A_1 and A_2, although the A_2 sample size was reduced by 75 percent. At exit, Group D performed significantly higher on four test sections than Group B at entry.

This study demonstrates that nursing performance in simulated clinical settings can be measured with a moderate degree of reliability and validity. Further study of performance with different samples to include RNs who work in and out of those clinical settings should be done.

Faculty and Student Perceptions of Clinical Teaching Methods

Phyllis Johnson
Georgia State University

Betty Lou Shubkagel
University of Maryland at Baltimore

Evelyn K. Tomes
Meharry Medical College, Tennessee

The problem under investigation in this descriptive study was: What is the relationship between the clinical laboratory teaching methods reported by graduate nursing faculty and those reported by students in master's programs in nursing in the South? Data were collected from 80 faculty in the Southern region who had taught clinical courses in master's nursing programs in 1977 and 1978, and 274 students enrolled in those courses.

Results showed that clinical laboratory teaching methods used frequently by faculty were those that were largely discussion in nature and did not occur in the actual clinical setting. The methods frequently used correlated highly with the methods students reported as most helpful. However, there were several methods that were never used by faculty and thus not evaluated for their helpfulness. Students ranked the most helpful methods as those which required faculty presence. Peer group consultation was also ranked high. Faculty and students reported differences in the frequency of use of various clinical teaching methods by faculty.

Conclusions

The following major conclusions were drawn from the study: (1) Graduate nursing faculty frequently use clinical laboratory teaching methods that are helpful to students. (2) Faculty do not perceive either their abilities or their roles — or perhaps both — as directly affecting the student's clinical competence and, therefore, do not frequently use clinical laboratory teaching methods that place them in the clinical setting with the student and the client. (3) Students prefer faculty involvement in clinical practice.

Clinical Teaching Roles Used by Faculty in Baccalaureate and Higher Degree Programs

Betsy Eells Bowman
University of Texas at Austin

Vivian Lundy Deitz
Western Carolina University,
North Carolina

Janet Burge
Florida State University

Kathleen R. Stevens
University of Texas at Houston

The purposes of this study were to identify clinical laboratory teaching roles currently used by baccalaureate and higher degree nursing faculty in the South and determine the demographic characteristics which correlate with clinical laboratory teaching roles.

The study population included all faculty who were teaching in a clinical laboratory setting in Southern baccalaureate, master's, or doctoral nursing programs (or combination of those programs, but excluding those with an associate degree nursing program). A random sample of 451 teaching faculty were selected for the study. The final study sample was 273 subjects.

The researcher-developed Inventory of Clinical Teaching Roles (ICTR) was mailed with a post-paid return envelope to each subject. The ICTR consisted of two parts: Part One pertained to selected demographic characteristics; Part Two was a Likert-type scale which identified how frequently 18 teacher roles were used. Drawn from previous studies on clinical laboratory teaching roles, the listed roles were: consultant, resource person, collaborator, colleague, tutor, craftsman/apprentice, demonstrator, instructor, supervisor, observer, validator, evaluator, socialization agent, apprentice, coordinator, proctor, disciplinarian, and liaison. Six role categories were used for the 18 roles on the ICTR: advising, evaluating, overseeing, conferring, steering, and socializing. Content validity of the ICTR was established using a panel of 13 expert judges, all consisting of faculty currently teaching in baccalaureate and higher degree nursing programs. Instrument reliability of .809 was established. Data were statistically analyzed using frequencies, means, analysis of variance, Pearson correlations, discriminate function analyses, and factor analyses.

Findings

Statistical analysis yielded the following findings. Faculty use from 14 to 18 different roles. The teacher characteristics which significantly related to the use of the teaching roles, were: level of students taught, years of teaching experience, highest degree held, clinical specialty, age, and size of faculty group. Formal courses in teaching with or without a practicum did not have a significant relationship to the role used by teachers.

The role categories, in descending order of frequency used, were: advising, evaluating, overseeing, conferring, steering, and socializing. A factor analysis of the 18 roles yielded five meaningful factors or categories which replaced the original six classifying categories. Listed from highest to lowest in importance, they are: (1) Steering — Those roles in which the teacher actively guides and directs the student. Roles which factored into this category were tutor, craftsman/apprentice, demonstrator, instructor, and supervisor. (2) Overseeing — Those roles which involve monitoring and managing the arrangements for the student learning experience. Roles which factored into this category were coordinator, proctor, disciplinarian, liaison, and evaluator. (3) Patterning — Those roles assumed by the teacher which place the student and teacher in a colleague relationship in order to move toward professionalism. Roles which factored into this category were collaborator, colleague, apprentice, and socialization agent. (4) Validating — Those roles in which the teacher provides performance feedback to the student. Roles which factored into this category were observer and validator. (5) Advising — Those roles in which the teacher provides the expertise in interacting with the student. Roles which factored into this category were consultant and resource person.

As a result of the factor analysis, the socializing and conferring categories were combined into one category and renamed patterning. Additionally, several roles were rearranged as a result of the factor analysis. The evaluator role was subsumed under the overseeing category. The roles of validator and observer were factored into a separate category which was renamed validating instead of evaluating.

Conclusions

The results of the factor analysis generally supported the original choice of categories and groupings of roles used for the study. The changes do not alter significantly the nature and intent of the categories, which appear to have meaning in the process of sorting and categorizing the roles used by teachers.

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Associate Degree Instructor Activities in Three Nursing Care Modalities

Pauline Bridger
Union University, Tennessee

Sandy McKeehan
formerly of Lincoln
Memorial University, Tennessee

The purpose of this descriptive study was to survey clinical faculty teaching activities in associate degree nursing programs in order to define the unique application of clinical teaching strategies within three nursing care delivery systems: primary nursing, team nursing, and functional nursing. Answers to the following questions were sought: (1) What teaching strategies are associate degree faculty using and which do they see as being most effective in the clinical laboratory in agencies using three nursing care delivery systems? (2) How do associate degree clinical faculty perceive specified variables in their institutions, in clinical agencies, and in themselves as affecting clinical teaching? (3) What kind of educational preparation do associate degree faculty have for clinical teaching?

The subjects selected were a random sample of faculty teaching in the second year of associate degree nursing programs in the South. Of 117 instructors contacted, 38 responded with completed questionnaires.

The questionnaire included predominantly multiple-choice items related to (1) assigned student experiences, (2) teaching strategies facilitating learning skills and the nursing process, (3) time allotted to the instructor roles of facilitator, role model, steerer, advisor, conferrer, socializer, and overseer, (4) the nursing care delivery system where clinical teaching occurs, (5) variables affecting clinical teaching effectiveness, (6) instructor educational preparation and teaching experience, and (7) instructor behavior and opinion.

Possible limitations of the study may be caused by a lack of homogeneity in the sample, that is, curricular content areas and clinical objectives varied, as did instructors' technical skills.

Content validity was determined by having three nurse educators, teaching second year associate degree students in a clinical area, judge the relationship of the variables used on the instruments to what was being assessed. Some degree of construct validity was determined by examining the empirical relationship between concepts and indicators and the expected theoretical relationship. Data from an initial pretest by the three nurse educators were used to determine inter-rater reliability.

Findings

Initial analysis has revealed the following information about the teaching strategies which are most effective in clinical agencies. The following teaching strategies were used 81 to 100 percent of the time by 50 percent of the respondents: (1) instructor behaviors — focusing on clinical experience, holding student conferences before and after the clinical experience, and questioning students during the clinical experience; (2) student-assigned experiences — preplanning care for the patient, including access to patients and nursing care plans. In ranking teaching strategies, questioning the students was found to be most facilitative of learning skills, whereas written objectives were revealed to be most facilitative of the nursing process. The student-assigned experience of preplanning, including access to patients, was most facilitative of both learning skills and the nursing process. At least 50 percent of the respondents used the following roles 61 percent of the time: overseer, role model, and facilitator. Through further analysis, it is hoped that the relationship of effective teaching strategies to the type of nursing care delivery system will be found. This limited analysis has revealed that 19 percent of the faculty teach using primary nursing, 56 percent use team nursing, and 25 percent use functional nursing.

Clinical teaching is often influenced by intervening variables. Half of the faculty perceived the following factors as helping their clinical teaching: instructor relationship with agency staff, students' relationship with unit staff, and the students' application of the nursing process. They felt their teaching effectiveness was further enhanced by the following factors listed in descending order: time assigned to their own clinical practice, lower student-faculty ratio, graduate coursework in clinical teaching, campus laboratory, and students being able to preplan.

Educational preparation of associate degree faculty revealed that 68 percent of those questioned had received previous training to teach in associate degree nursing programs, with 54 percent receiving this training at the baccalaureate level. Of all respondents, 85 percent had continuing education experience aimed at clinical teaching, 82 percent had at least two and a half years of clinical teaching experience, while 40 percent of this group had five or more years experience.

Effect of Feedback on Observational Skills Using Videotaped Patient Care Situations

Sarah Q. Boone
formerly of the University of Texas at Houston

Eileen L. Neff
East Tennessee State University

Cheryl Driver Levine
University of Texas at Houston

Eleanor M. Stringer
Medical College of Georgia

The purpose of this study was to develop a method of improving student nurses' observational skills. It was hypothesized that these skills would be improved if the students were given immediate feedback after responding to questions about videotaped vignettes of patient care situations.

The participants were 238 volunteer nursing students from three schools of nursing enrolled in their first nursing course: 70 students in a rural Tennessee associate degree program, 84 in an urban Georgia baccalaureate degree program, and 84 in a metropolitan Texas baccalaureate degree program. They were then assigned randomly to a control or experimental group.

Data collection required about one hour of student time. All participants completed a 15-item Demographic Data Form and were shown two videotaped vignettes from the Verhonick Nursing Judgment Series. After each vignette, the subjects were asked to answer 15 true-false questions about the vignette. The experimental group was given immediate feedback — the correct answers to each of the 15 questions. The control group did not receive feedback. The posttest consisted of two more vignettes with similar questions. At the completion of this activity, all participants were given a 41-item Opinion Questionnaire to determine their reaction to this experience.

Findings

Analysis of the four vignette questionnaires showed significant differences among the schools, but no significant differences between the control and experimental groups. Feedback did not make a difference in learning observational skills. The experimental group perceived a greater improvement ($p<.10$) in their observational skills than the control group, but there was no significant difference in their skills as measured by the vignette questionnaires.

A series of chi-square analyses showed that the students differed significantly ($p<.05$) among schools. Tennessee had the largest number of students from small towns, and Texas had the largest number from big cities. The students from Texas had more credit hours; students from Tennessee had least. Tennessee had more working students. More of the students from Georgia were later born and single than from the other schools. There was no significant difference among schools or between groups on "previous work experience," "years of work experience," "focusing on the patient," and "focusing on the environment."

Of 39 opinion questionnaire items tested for significance, 15 showed significant differences among schools, and five showed significant differences between the experimental and control groups. Several of the significant differences followed age patterns in schools. The students from Tennessee, being a significantly older population ($p<.05$), found verbal instruction for the procedure least helpful ($p<.05$), felt greater sensitivity for the elderly patient ($p<.05$), felt that the sensitivity interfered more than the younger students in their ability to observe ($p<.10$), and focused more on the patient and would continue to focus on the patient ($p<.05$). Students from Texas, having the highest mean hours of college credit ($p<.05$), found the scenes easier to observe ($p<.05$), were more likely to participate in research ($p<.05$), indicated a higher level of enjoying research ($p<.05$), were more likely to consider the time allotted for completing the questionnaires adequate ($p<.05$), were more likely to see their ability to observe improved from the first to the last time ($p<.10$), and found the words, terms, and questions clearer ($p<.05$).

Conclusions

Differences in results among the schools could also be due to differing viewing situations and technical problems with the videotape equipment. The data do not allow for evaluation of possible response bias.

Effect of Feedback on Performance and Attitudes of Student Nurses

Eileen D. Callahan
Mississippi Gulf Coast Junior College

Roxeann Zielie
formerly of Corpus Christi State University, Texas

A. Susan Nelson
Corpus Christi State University, Texas

The purpose of this study was to determine the impact of feedback on the performance and attitude of nursing students. Basic patient interviewing was chosen as the skill to be evaluated using two types of feedback: (1) Experimental group students watched their own patient interviews on videotape while receiving verbal feedback from an instructor; and (2) control group students received verbal feedback only. All 21 students were registered nurses who had completed an associate degree or diploma nursing program and were enrolled in a baccalaureate nursing program.

To determine the subjects' reactions to the experience, each one completed an attitude inventory following the last videotaping session. The tool used to assess the students' attitudes toward the experience was developed using the semantic differential for quantitatively measuring meaning. The researchers wanted to establish not only which type of feedback contributed most to developing interview skills, but also the students' attitudes toward the type of feedback received. Negative student attitude might cause a particular teaching method to be ineffective. This study was included as a segment of a nursing course focusing on interpersonal relationship skills.

The subjects were stratified according to age and type of basic nursing program completed, then randomly assigned to either the experimental or control group. A 45-minute videotaped lecture on basic interviewing skills was shown to the entire class. Fifteen minutes were allowed for questions and answers. Each subject was then given two opportunities to demonstrate interviewing skills in a role-play situation. Both groups were given feedback between the first and second interview. All interviews were videotaped. Volunteers served as clients in the role-play situations. All subjects were given the opportunity to interview both a male and a female client.

Before the interview, students were given an opportunity to study the checklist used to judge performance, as well as pertinent information about the client to be interviewed. The checklist was adapted by the researchers from an evaluation tool previously used in a Corpus Christi State University nursing course. It sets eight standards for facilitative interviewing skills. Each of the eight standards has related criteria for expected student behaviors needed to meet the standard. Three judges viewed each four-minute videotaped interview, one performance by each of the control and experimental students, checking if the behaviors were present or absent.

The tapes were coded and edited in a random order to be viewed by three new independent judges, checked previously for inter-rater reliability. By using this procedure, the judges did not know which were first or second interviews, which participants had viewed their interviews, and which had only verbal feedback. The same checklist was used by all judges to critique each interview.

Findings

The attitude of all subjects was positive, and the total scores revealed no difference between control and experimental groups. Comparison of the total scores on the performance checklist for both groups revealed no significant improvement in the second interview.

Conclusions

It was concluded that (1) verbal feedback alone from an instructor is as effective as viewing oneself on videotape as a means of developing basic interviewing skills; (2) according to the attitude inventory, both types of learning (immediate feedback with and without videotaped image) are positive learning experiences for students; and (3) both being videotaped and watching their own videotapes were somewhat traumatic but ultimately meaningful experiences for the students.

Future Research

It is recommended that (1) the study be replicated with a large sample; (2) the lapse of time between the first and second interview be longer or a third interview be demonstrated one week later; (3) more evaluative factors be used in the attitude inventory; (4) demographic data regarding cultural groups be assessed to determine effect of language fluency on performance; (5) inter-rater reliability be randomly assessed throughout the judging process; and (6) a concept be used related to the absence of videotape feedback.

Nursing Process, Student Attributes, and Teaching Methodologies

Carolyn M. Adamson
Texas Woman's University

Barbara Boland
University of Maryland at Baltimore

Gail C. Davis
Texas Christian University

Jeanette F. Kissinger
Medical College of Virigina

Frances D. Moncure
University of Texas at Houston

Mary L. Moser
University of Texas at Houston

Barbara A. Munjas
Medical College of Virginia

Priscilla Taylor
Medical University
of South Carolina

Nancy Wilkey
Coppin State College, Maryland

The purpose of this study was to determine the relationship among methodologies used in teaching the nursing process, nursing student ability to use the nursing process, and the following student attributes: field-related perceptual function, impulsiveness, locus of control, convergent-divergent thinking ability, grade point average, scholastic aptitude, age, sex, and ethnicity.

The sample consisted of 201 student volunteers and 77 teachers in the students' first clinical nursing course at two private and four state-supported baccalaureate nursing programs. The students' mean age was 23.25. Mean grade point average was 2.88; mean Scholastic Aptitude Test score was 90.62.

At the beginning and end of the students' first clinical nursing course, student attributes were measured using the Group Embedded Figures Test, the Impulsiveness Scale, the Internal-External Locus of Control Scale, the Extended Range Vocabulary Test, the Inference Test, the Different Uses Test, and the Topics Test.

Nursing process proficiency was measured at these times using Adamson's Clinical Simulations. At the end of the first clinical nursing course the faculty sample completed the investigator-developed Faculty Survey of Learning Experiences.

There were significant increases in mean scores ($p < .001$) on the Group Embedded Figures Test, Different Uses Test, Topics Test, and Inference Test. These changes indicated increased field independence, divergent thinking, and convergent thinking. The largest gains were in mean scores on divergent thinking. There was a significant decrease ($p < .001$) in the mean raw proficiency index on the clinical simulation of the nursing process. The two forms of clinical simulation of the nursing process were apparently not equivalent, with the second form being more difficult. The decrease in raw score probably indicated no change. The mean student teacher ratio was 8.53. The mean number of hours in the clinical setting each week was 9.14.

Findings

The faculty survey included ranking the importance of the teaching methods used in the clinical setting. The rank order of the methods, from most to least important was: guided experiential learning, self-study, small group, teacher demonstration, individual conference, audiovisual, and teacher-dominated presentation. In all types of learning situations, the rank order of teaching methods, based on percent of time actually used was: teacher-dominated presentation, self-study, small group, audiovisual, guided experiential learning, teacher demonstration, and individual conferences.

A multiple regression analysis of all measured variables showed a significant relationship $R = .41$ ($p < .01$) between ability to use the nursing process and the three variables: inference, locus of control, and small group discussion. Those students who scored high on nursing process ability, scored high on inference ability, were internally controlled, and spent minimal time in small group discussion.

Essential Content in Master's Degree Nursing Programs

Elnora D. Daniel
Hampton Institute, Virginia

Carol J. Gray
University of Texas at Houston

Patricia Gauntlette-Beare
University of Texas at Galveston

Jeanette Lancaster
University of Alabama
at Birmingham

Virginia F. Gover
University of North Carolina
at Chapel Hill

Patricia E. Sloan
Hampton Institute, Virginia

Only limited information has been available previously about what is taught to all students in master's degree programs in nursing regardless of their clinical major or functional area of practice. The purpose of this research was to answer the following questions: What is currently being taught as essential content in master's degree programs in nursing? What do respondents think should ideally be taught as essential content? To what extent is there congruence between what is actually being taught and what ideally should be taught? To what extent is there consistency among master's degree programs in what is actually being taught and what ideally should be taught? What cognitive behavior is expected for each of the content areas required of all students? For each of the content areas that ideally should be required of all students, what cognitive behavior should be expected and to what extent is there congruence between the behavior actually required and the behavior ideally required for all students?

The total sample consisted of the 76 master's degree nursing programs accredited in the United States by the NLN as of July 1978.

A content inventory was designed to elicit respondents' perceptions of the real and ideal essential content, the extent of congruence between the two, and the expected cognitive behaviors of students.

Data were treated by descriptive interpretations and simple rank order correlation. Content was ranked according to the highest percentage of respondents who identified an item as essential content actually or ideally required in their curriculum.

Findings

Results indicated that over 75 percent of the respondents agreed that research, nursing process, health care delivery system, nursing theory, individual assessment, health, wellness, illness, evaluation, decision making, accountability, and interpersonal relationships were actually required in their programs. For these content areas, 75 percent of the respondents agreed that the first four should ideally be required. Other ideally required content areas in the upper quartile included: change, communication, group dynamics, political and legislative issues, culture-ethnicity, and ethics and health.

Conclusions

The researchers concluded that the study findings reflect general trends in the U.S. The content preference suggests that educators' goals are changing from a more individual orientation based on specific skills to a system-oriented focus based on professional activities and responsibilities. Nurse educators seemingly recognize the need for nursing to become a major force in the national health care delivery system.

Multivariate Prediction of State Board Examination Success of Baccalaureate Nursing Students

Alice Spencer Dickerson
University of Arkansas at Pine Bluff

Marianne Murdock
University of Alabama at Birmingham

Robert McKnight
Johns Hopkins University, Maryland

Patricia E. Thompson
Texas Christian University

This research assessed the ability of several constructs, considered in linear combination, to predict baccalaureate students' performance on the subtests of the state board test pool examination (SBTPE).

Data were collected from 97 senior nursing students during their last term of enrollment in two baccalaureate programs located in the SREB region, one privately and one publicly supported. The predictor variables were operationalized from four constructs; psychosocial factors, reading skills, demographic factors, and educational preparation and performance.

Two psychosocial factors, stress and coping mechanisms, were assessed through the administration of the Holmes and Rahe Social Readjustment Rating Scale (SRRS) and the Bell Coping Scale. The Nelson-Denny Reading Test, Forms C and D, was administered to assess the reading, vocabulary, and comprehension skills of the students. Age, race, and gender data were collected from the students. Educational preparation and performance were assessed by determining the content of high school curriculum, performance on college entrance examination batteries, grade point average in preclinical and natural science courses, and graduating grade point average. Results of the NLN Achievement Tests were also included as measures of educational performance.

A multiple linear regression analysis was performed by constructing five equations consisting of several independent variables used to predict the dependent variables, i.e., the actual scores on the five subtests of the SBTPE. The resulting R^2 values ranged from .36 to .63. High school curriculum content, total stress scores, reading scores, and the NLN Achievement Test scores were statistically significant predictors of scores on all five subtests.

Multiple discriminant analysis was used to determine which of the independent variables would best differentiate those students scoring above and below the median scores for each of the five subtests. The percentage of correct classification, which gave a measure of the ability of the independent variables to differentiate those individuals who scored above and below the median, ranged from 75.7 percent to 87.8 percent. High school curriculum content and NLN Achievement Test scores were consistently discriminating variables.

Findings

The results of this research indicate that scores on the five subtests of the SBTPE can be successfully predicted based on a knowledge of high school curriculum content, stress scores, reading ability, and NLN Achievement

Test scores. Those students with more than two years of high school algebra, one year of geometry, more than two years of biology and chemistry, and somewhat better than average scores on the NLN Achievement Tests, score above the median on the SBTPE subtests 75 percent of the time.

Conclusions

The use of these readily available data will allow educators to predict performance on the SBTPE at the 50th percentile in a minimum of 75 percent of the cases. Administrators and admissions officers of baccalaureate programs could use this methodology and these results in establishing a data-based performance index for potential licensees. Such a predictive index has implications for the cost-effective education of the nursing student, given the availability of a model to predict performance on the professional licensure examination.

Do Self-Directed Learners Exhibit Identifiable Characteristics?

Gloria M. Clayton
Medical College of Georgia

Laurice Kafrouni Durrant
Southwestern Adventist College, Texas

Judith W. Hill
University of South Carolina

Margaret Tetz Neal
University of Maryland at Baltimore

Margaret G. Opitz
East Tennessee State University

Loreen P. Overstreet
Macon Junior College, Georgia

The purpose of this study was to determine (1) if the personality characteristics and demographic variables of self-directed learners can be identified, and (2) if there are differences between students who are rated high and low in self-directed behaviors.

The sample included 193 students from the six schools where the researchers teach. Volunteer students and clinical faculty were given a list of behaviors descriptive of self-directed learners and then asked to nominate those students in their clinical group who almost always, seldom, or almost never exhibited the described characteristics. It was assumed that the students and faculty had worked together closely in the clinical area and would know each other well. Additionally, the students were asked to rate themselves on a five-point Likert scale using the same list of behaviors. Selection for participation in the study was based on the three nomination lists: faculty nomination, peer nomination, and self-nomination. To be included in the study, a student had to be rated high (almost always) or low (seldom or almost never) in self-direction on at least two of the three nomination lists.

This procedure resulted in 161 students being chosen for the study. The sample consisted of 145 students who were rated high in self-direction and 16 who were rated low in self-direction. Another 32 students, who were not nominated as high or low but fell somewhere in between, volunteered to participate and complete the instruments.

All participants completed three instruments: (1) a demographic questionnaire containing 36 questions about personal information and variables which the literature suggests might affect the degree of self-direction; (2) the Interpersonal Behavior Survey (IBS); and (3) the Personality Research Form (PRF).

Both personality instruments are self-report questionnaires and have validity and reliability data normed for the college-age population. The IBS is used in assessing certain behavioral tendencies, especially assertiveness and aggressiveness. The PRF is designed to measure normal personality traits broadly relevant in a wide variety of situations.

Data analysis of the PRF scales revealed that both high and low self-directed learners scored above the college norm in achievement, cognitive structure, dominance, nurturance, and desirability, and below the college norm in abasement, autonomy, impulsiveness, and play. On the infrequency scale of the PRF, the high group scored significantly below the college norm and the low group significantly above the college norm.

Analysis of the IBS scales revealed that both the high and low groups scored above the college norm in total good impression, assertiveness (general and rational), initiating assertiveness, leadership, and self-concept. On the hostile stance, physical aggressiveness, and infrequency scales, the high group scored significantly below the college norm while the low group scored above the college norm. On the scales of assertiveness with family and friends, the high group scored at the college norm and significantly above the college norm on assertiveness with authority. On these same scales, the low group scored at the college norm on assertiveness with authority, below the norm on assertiveness with family, and above the norm on assertiveness with friends.

Discriminant analysis was used to distinguish statistically between the high and low self-directed learners. Variables included in the step-wise analysis had a probability level of less than .25 for the *t* tests. There was one significant function which placed the median of the high and the middle group (not nominated as high or low) close to each other and both well separated from the group of low self-directed learners.

Findings

The rank order of the most distinguishing variables is: (1) students in the high group tended to be in the usual educational pattern while the low group had previous educational degrees before entering nursing; (2) students in the high group had higher scores in achievement (PRF); (3) students in the low group had higher scores in autonomy (PRF), descriptive here of a rebellious autonomy; (4) students in the high group scored higher in assertiveness with family (IBS); (5) students in the high group scored higher in assertiveness with authority.

Future Research

Because of the limited number of students nominated to the low group, it is recommended that further research test students in pre-nursing courses, since attrition and admission to upper division courses may have eliminated many low self-directed persons. It is also recommended that a less socially desirable description of the self-directed learner be used in the nomination process, thus reducing the chances of students characterizing themselves as they would like to be rather than as they are.

Can Existing and Desirable Inquiry/Research Behaviors Be Distinguished for Associate, Baccalaureate, and Master's Degree Programs?

Sharon C. Bridgewater
University of Louisville, Kentucky

Annie Sue Clift
University of Tennessee at Martin

Shirley Joan Gregory
University of South Florida

Sosamma Z. Lindsay
Southwestern
Adventist College, Texas

Alta Faye Woody
formerly of the University of
Mississippi

The purpose of this study is to gain knowledge about current trends in curriculum content which incorporates inquiry/research behaviors, including those that are taught and those that are considered desirable to teach. The long range goal is to provide nursing educators with a sound basis for making curricular decisions, particularly about a nursing research curriculum, by articulating the inquiry/research behaviors appropriate for the three levels of nursing education surveyed.

Inquiry/research behaviors are defined as observable actions indicating mental and/or physical application of a systematic process in approaching solutions to nursing problems. Inquiry/research behaviors currently taught in the three types of programs will be further evaluated for the presence of a pattern of systematic ordering.

A questionnaire listing 76 inquiry/research behaviors was mailed to 393 nursing faculty representing all associate degree, baccalaureate, and master's degree programs in 14 Southern states. Behaviors on the questionnaire were drawn from nursing literature and from the experience of educators. The behaviors were considered to be representative of problem-solving steps, the nursing process, and the research process. The questionnaires also requested demographic data about each respondent.

Of all questionnaires sent, 217 were returned — 117 from associate degree programs, 71 from baccalaureate programs, and 29 from master's degree programs. Statistical evaluation of the data, now being conducted, includes multivariate analysis, chi-square, *t* tests with *post hoc* comparisons, and factor analysis.

Hypotheses

Hypotheses to be tested include the following: (1) As the level of nursing education increases the number of inquiry/research behaviors taught increases. (2) There will be a significant difference among respondents of each of the four programs about serving on curriculum committees. (3) There will be a significant difference among respondents of each of the four programs about serving on research review committees. (4) There will be a significant difference among respondents of each of the four programs on teaching college research courses. (5) There will be a significant difference among respondents of each of the four programs on how inquiry/research content is presented in these curriculums. (6) At all levels of nursing education, the number of inquiry/research behaviors included is less than the number of inquiry/research behaviors desired. (7) There will be a difference in faculty perception of the desired quantity of inquiry/research behaviors between faculty who teach at a particular level and faculty at all other levels.

Independent Study as a Learning Experience in Baccalaureate Nursing Programs: Perceptions and Practices

Genevieve M. Bartol
Duke University, North Carolina

Margaret R. Dear
Johns Hopkins University, Maryland

Independent study as a learning experience for baccalaureate nursing students is recognized by faculty, administrators, and accrediting agencies as a useful component in nursing curricula. Little is known, however, about what actually occurs within independent study in baccalaureate nursing programs. Therefore, the purposes of this study were to identify baccalaureate nursing faculty and administrators' perceptions of independent study and determine the use of independent study in baccalaureate nursing programs.

A questionnaire was developed, based on Dressel and Thompson's definition of independent study as "the student's self-directed pursuit of academic competence in as autonomous a manner as he is able to excercise at any particular time." The questionnaire incorporated different sections to be answered separately by faculty members and administrators, as well as an opinion questionnaire which both groups answered in common. The instrument was pretested, using a convenience sample of 14 faculty members and three administrators, and then further refined based on the results of the pretest.

The completed questionnaire was mailed to 435 nursing faculty members at 40 baccalaureate nursing programs in the South and 15 baccalaureate program administrators in the same region. Of the sample addressed, 57 percent returned questionnaires; of these, 51 percent were usable. Data were analyzed in terms of frequency distributions, mean, mode, and median scores for both groups in the opinion questionnaire, as well as by percentages for all participants.

Findings

The results indicate that there is little universality in understanding the meaning of independent study or its purpose as a capability to be developed and a goal to be achieved as proposed by Dressel and Thompson. While rigid prescriptions for independent study are not compatible with its purpose, some guidelines are in order if independent study as an objective rather than a mode of study is to be clarified.

Faculty Development: Activities and Barriers

Beatrice R. Brooks
Northwestern State University, Louisiana

Mary Ruth Fox
J. Sargeant Reynolds Community College, Virginia

Gretchen LaGodna
University of Kentucky at Lexington

Evangeline B. Lane
Georgia State University

Norma J. Long
University of Tennessee at Memphis

Mary Ann Parsons
University of South Carolina

Ora L. Strickland
formerly of the University of North Carolina at Greensboro

The purpose of this study was to determine the nature of nursing faculty development activities and to identify barriers to faculty participation in these activities.

Eleven specific faculty development activities were identified, comprising five major categories: (1) independent/self-study, (2) formal matriculated study, (3) workshops and short courses, (4) professional meetings and conferences, and (5) exchange of information among faculty. Personal and institutional factors were studied as possible barriers to involvement in faculty development activities.

A pilot-tested, investigator-developed questionnaire was used to collect the data. The sample was composed of full-time nursing faculty from the Southern region who taught in associate degree, baccalaureate, and/or higher degree programs. Usable questionnaires were returned by 392 (27 percent) of the 1,450 subjects.

Descriptive statistics were computed for each item for the total sample and subgroups within the sample. Chi-square analyses were computed to compare demographic factors with faculty development activities and barriers.

Findings

The activities most frequently participated in were found in the categories of (1) exchange of information among faculty, (2) professional meetings and conferences, and (3) workshops and short courses. Those activities least participated in were found in the category of independent self-study (research, clinical practice, formal consultation, and presentations at professional workshops and meetings). Demographic factors often related to frequency of participation in faculty development activities.

Four institutional factors in order of frequency were identified as significant barriers to participation in faculty development activities: workload, faculty scheduling, lack of release time, and insufficient institutional financing of faculty development activities.

Personal barriers to participation in activities for faculty development were related to marital status and faculty rank. Instructors and assistant professors who were married indicated that personal finances, care of dependents, home management responsibilities, and social responsibilities were barriers, while unmarried faculty reported personal finances and social responsibilities as barriers. Associate and full professors, whether married or single, tended to report lack of own interest as a personal barrier.

The majority of respondents reported that participation in faculty development activities is never or seldom considered in decisions about salary increases or promotion in rank.

Conclusions

It was concluded that time, money, and more institutional consideration of participation in faculty development activities in promotion, tenure, and reappointment decisions should be provided to encourage faculty development. It was also concluded that the career status of faculty and their personal life situations may influence the degree to which they can become involved in faculty development activities.

Measuring Creativity in Clinical Nursing Practice

Mitzi Nuhn Dreher
University of Texas at Austin

LaRetta M. Garland
Emory University, Georgia

Suzanne Kindel
formerly of the University of Texas at Arlington

Lucille Moore
University of Texas at Galveston

Jesselyn M. Voight
Eastern Kentucky University

The purpose of this study was to investigate in a clinical setting one component of cognitive skills — creativity. The research question was: Given common situational testing in a simulated clinical setting, is there evidence of creative behavior by senior nursing students in generic baccalaureate programs when presented with a nursing problem relating to patient mobility?

The theoretical base for the study was Orem's *Theory of Nursing*, which divides the nursing process into three stages: assessment, intervention, and evaluation. This study focused on the evidence of creative behavior demonstrated by student nurses in the assessment stage, in which the patient's need for nursing assistance is determined through analysis and interpretation of data.

The sample to be tested consisted of 43 senior generic baccalaureate students who had completed their basic study of clinical nursing problems regarding patient mobility. The students were not screened for cognitive learning style.

Students were first given the Torrance Test (Verbal A), a standardized tool which measures three components of a person's creative behavior — ideational fluency (or frequency of ideas), flexibility, and originality. The students, as a group, then viewed a videotape (Chronic Disease Module) in which an older woman with advanced rheumatoid arthritis is at home receiving team care. After viewing the tape, the students were given the researcher-designed Nursing Test, which was modeled on the Torrance concept. In the Nursing Test, the students were asked to list quality and quantity of nursing problems which were observed, stated, or implied in the simulated clinical situation. Nursing Test scores were then compared to scores on the Torrance Test, which was used for external validity. Product-moment correlation and one-way analysis of variance were used for data analysis. Independent variables tested were: birth order, grade point average, and incidence of rheumatoid arthritis in the student's family.

Findings

Results indicated no significant correlation on total scores and mean subscale scores between the Torrance Test and the Nursing Test, or between grade point average and total score on either the Torrance Test or the Nursing Test. Between birth order and creative behavior, however, data indicated a significant difference between "third child" birth order and "oldest child" birth order, with students in the latter group having higher scores on the flexibility subscale of the Torrance Test. No significant difference was found for this variable on the Nursing

Test. The correlation between test scores and incidence of rheumatoid arthritis among students' family members was not significant.

Future Research

The researchers recommend further study of creativity in the clinical setting to develop standardized criteria to measure clinical performance. The specific factor of birth order needs continued exploration since it frequently appears in the literature (Adler, Altaus, Blau, etc.) as being related to productivity, which may be affected by creativity. For replication of this study, more independent variables (e.g., previous work and life experience) should be tested and a larger sample should be used.

Three Views of Collaborative Research

Characteristics of Faculty and Collaborative Research

Barbara Lovett Mauger
Project Director
Nursing Research Development
in the South
Southern Regional Education Board

In September 1978 and again in September 1979, 77 researchers who took part in the Nursing Research Development in the South project, as well as their deans and directors, were surveyed about the process and impact of participating in this grant. Additionally, informal observations were made about the contributions of group members, the progress of the groups, the characteristics of collaborative research, and the experiences and activities that have facilitated or hindered the production of high quality research.

The surveys indicate that the participants and their schools, grouped by type of nursing program, are a remarkably homogeneous group regarding research. There was great similarity among participants on the degree held, the support services needed, the amount of hours spent on research, the time it took to get approved by the human subjects review committee, the hours in their workload committed to research, and the adequacy of their communication with their dean or director. However, several significant differences were detected.

Survey Results

Participants teaching in graduate programs have taught longer ($p = .001$) than participants in other programs. It is also apparent that participating faculty from baccalaureate programs are more homogeneous in their demographic characteristics than either graduate or associate degree faculty.

Communication between deans and participants was usually handled informally in associate degree programs, and less frequently than in baccalaureate and graduate programs ($x^2 = 30.666$, $p<.03$). How frequently faculty members communicated with their dean or director, however, did not relate to the number of hours that their workload was modified for research.

Associate degree faculty were the most likely to have difficulty identifying human subjects review policies and procedures at their institutions (x^2 [3] $= 14.245$, $p<.003$). This is probably due to faculty's infrequent involvement in research at community colleges. Once the review process was identified, it took from 1 to 20 weeks for a proposal to be reviewed, no matter the type of program. The time spent in the proposal review phase of the research process was a source of great frustration for some participants.

The number of hours spent on research correlated with progress only for faculty in graduate programs ($r = .659$, $p = .004$). This may indicate that graduate faculty are more experienced researchers and do not waste time or head down blind alleys.

Secretarial time used was significantly associated with reporting the secretarial services as adequate, that is, the more used, the more likely were researchers to see it as adequate (Kendall's Tau B = .554, $p = .0000$).

In the first survey, faculty with master's degrees saw colleagues and their dean or director as less helpful in their attitude than did faculty with doctoral degrees (Tau B = .306, $p = .002$; Tau B = .187, $p = .04$). The mean score of the master's-prepared faculty was in the neutral range, indicating that they did not perceive their dean or director as having either a positive or a negative impact. Faculty at associate degree programs saw their colleagues as having a slightly negative attitude and one which was significantly less helpful than that seen by baccalaureate faculty in their colleagues (*F* [2,52] = 4.952, p = .011).

Again in the first survey, the baccalaureate faculty saw more positive influences from a variety of sources, while graduate faculty generally perceived the influence from others to be neutral. Graduate faculty perceived significantly less positive influence from their families (*F* [2,52] = 3.233, p<.048), workgroup members (*F* [2,52] = 3.732, p = .031), advisors and consultants (*F* [2,52] = 6.815, p = .002), and from their own personal motivation (*F* [2,52] = 4.568, p = .015), than baccalaureate faculty. Associate degree faculty fell between baccalaureate and graduate faculty on these measures. Faculty in associate and graduate degree programs saw the project staff as having a significantly less positive influence than that perceived by baccalaureate faculty (*F* [2,52] = 8.145, p = .001).

In the second survey, faculty in graduate programs, regardless of degree, reported the attitudes of friends and families as significantly less helpful than baccalaureate faculty did (*F* [2,54] = 3.046, p = .056; Duncan's procedure significant at the .05 level). Graduate faculty saw the attitudes of family and friends as neutral, while associate degree and baccalaureate faculty saw the attitudes of family and friends as a positive influence. Baccalaureate faculty saw project staff as significantly more helpful than graduate faculty did (*F* [2,55] = 3.560, p<.04), although both saw project staff as a positive influence. Baccalaureate faculty also found their workgroup as significantly more helpful than graduate faculty found theirs to be (*F* [2,55] = 2.791, p = .07; Duncan's procedure significant at .05). In both of these cases, associate degree faculty fell between baccalaureate and graduate faculty. Finally, faculty in graduate programs were more likely (x^2 [12] = 21.801, p<.04, year one; x^2[8] = 15.57, p<.05, year two) to see locally available consultants for statistics and computer analysis as helpful.

These data do not indicate that families, colleagues, deans, and others actually react to baccalaureate faculty more positively than to graduate faculty, but indicates instead that baccalaureate faculty perceive support from those around them as having a positive impact on their research, which raises the possibility that faculty in baccalaureate programs are more sensitive to responses from others and that their productivity is more influenced by their environment. Their limited research experience may lead to greater concern for external responses, while graduate faculty's more extensive teaching experience may produce greater independence and confidence in their research ability.

Costs of Faculty Research

Data from the surveys indicate some idea of what it costs to do educational research in nursing, although the reported costs are estimates and do not reflect actual costs because many participants did not keep records of expenses. First-year costs were minimal — an average of $75 per participant reporting costs for support services and less than one hour a week secretarial time. Second-year data were based on very few responses from participants and reflect supplies and computer services. Still, the estimates of deans and directors are substantially different from those of faculty. In the second year, participants from associate, baccalaureate, and graduate programs, respectively, reported average costs of $41, $50, and $100, while deans' and directors' reports averaged $212, $175, and $225, respectively. Secretarial time jumped substantially in the second year, from an average of one to an average of three hours per week. This may be the basis of the deans' and directors' higher estimate of costs, for participants did not commonly include secretarial expenses in their estimates.

The time used for research has remained quite steady through the two years — approximately four to five hours a week. This was the original estimate of what would be necessary and appropriate for participants and may have influenced the participants' behavior, their self-report, and the dean's report.

Only 21 percent reported that their workload assignment was explicitly modified to include research during this grant. Deans and directors reported more changes in hours than the faculty reported. Modification of workload was least frequent in associate degree programs and most frequent in graduate programs. In the first year, several deans and directors reported that they did not have enough lead time to arrange for modified workload for their participating faculty. This was a realistic problem since the project received funding in the middle of the year. However, it does not explain the somewhat lower frequency of modified workload in the second year.

Any resource is finite and it follows that using a resource for one purpose prevents it being used for another. If time is used for curriculum revision meetings or accreditation preparation and visits, it isn't available for research. Each year of this project, 30 percent of our participants were involved in at least one of these activities. The time demands of the accreditation process are such that little time is left for anything else.

Another necessary resource for most nurse researchers is consultation on statistics and computer analysis of data (not the computer time itself — just getting the data ready and then interpreting the printout). During this grant, the project has been able to absorb many of these costs, although some schools have paid for consultation. Other schools have hired qualified, non-nurse faculty with expertise in these areas. However this need is met, my estimate is that throughout the project each of these studies received 5 to 40 hours of consultation from some source. This amount of time is reasonable, although costs can become exorbitant if a renowned person with a commensurate fee is hired or if an inadequate consultant is hired and is unable to meet the researchers' needs.

These costs — secretarial services, consumable supplies, consultation services, computer time, and faculty time — are each quite minimal, but may be impossible to provide if not planned into a budget. At the first meeting, participants were encouraged to prepare a budget of estimated costs to allow for research costs in the total program budget at their school. Based on the replies to my request for cost figures, I suspect that few deans or directors ever saw a budget. Budgeting research expenses is a skill as necessary to the researcher as developing questionnaires or understanding statistics.

Another reality for most nurse researchers is the need to use a biostatistician to help develop the research design and carry out the planned analysis. Such expenses accrued early in the research process will more than save an equal amount if a statistician is called only at the end. The use of expert consultation for content issues, tool selection, or statistics is the sign of a good researcher who is willing to accept help and knows how to get it. Data suggest that finding good consultants may be far harder at associate degree schools.

Another behavior which reflects a mature researcher is the use of peer review. This was not done at over 65 percent of the schools in any systematic way. Having a draft of a proposal or article read by someone — other than a friend — can be invaluable. In the proposal stage, it can greatly strengthen the design. In an article, it can tell researchers what they are communicating and how well. For this grant, the workgroup members largely served as their own peer reviewers. Baccalaureate faculty found it the most helpful.

Nature of Collaborative Research

During this grant, we have observed that the collaborative research process is a slight modification of the usual research process because of group interaction. Collaborative research, particularly with researchers from more than one school, is characterized by (1) group members needing to debate and compromise in order to define common goals and points of reference, (2) the broad range of institutional supports (available from the home institutions of group members), (3) a multiplicity of regulations and policies for human subjects research, (4) the opportunities to share knowledge through group members' mutual exchange of ideas and experience, and (5) the possibility of building on the diverse strengths and skills of group members.

The debate and compromise among group members, which marks the key difference between cooperative and individual research, continue throughout the collaborative process, but are most pronounced when the research is being planned. In the individual research process, terms are defined and hypotheses postulated after the research question is determined. In collaborative research, because of the need for several individuals to reach a common understanding, the participants' progress involves first, identifying some mutual interests; second, identifying a general, common issue; third, defining relevant terms; and finally, identifying a research question.

This debate and compromise can be compounded by the participating researchers' differences in personality, experience, and ideology and can slow the research process, especially in the initial stages. However, this interaction also provides for a greater influx of ideas, helping to assure that the research conducted is more substantial in its design and broader in its application and outlook.

Another characteristic of collaborative research is the opportuninty for the researchers to learn from each other. It also guarantees more initial points of dissemination of results than individual research. The collaborative research process can be used to extend an atmosphere of intellectual stimulation and a feeling among researchers that they are part of a professional and mutually supportive community. This is especially important among nurses, who have begun to emphasize only comparatively recently the need for a research base as the foundation of a profession. Involving several people in one study increases the probability that the range of skills needed for a strong research design will be available through the group members. In nursing education, areas of expertise include clinical and laboratory instruction, curriculum design, educational theory, administration, and non-traditional teaching methods. The past experience of group members also contributes a variety of skills. While one may have experience in preparing budgets, another may have computer skills, and another experience in writing for publication. Together they support and learn from each other.

Communication

Several means of facilitating the collaborative process were used in this grant, but two in particular warrant further discussion — communication and consultation. Basically there are four channels of communication in this sort of project — communication among participants, communication between project participants and project staff, communication between participants and fellow faculty and administrators, and communication between project staff and nursing program administrators.

There are four purposes for this communication. One is to assure progress by avoiding faulty methodologies and designs, by spurring participants to stay on schedule, and by keeping project staff on top of the latest developments so that problems can be dealt with before they become overblown. Another is to maintain morale by keeping participants informed of the work of all research groups, both common progress and common problems. A third purpose is to disseminate knowledge to other participants, to fellow faculty, and to administrators, and thus stimulate that desired atmosphere of a professional community. A fourth purpose is to assure administrators, who keep an eye on the bottom line, that the participants are being productive and that they are enhancing their worth to the school, to their students, and to the patient.

Five means of communication were used during this grant: meetings, conference telephone calls, quarterly progress reports, a periodic newsletter, and survey questionnaires. While meetings were the most effective way for groups to work together, they were the most difficult to arrange because of the time and expense involved. Another effective communication technique was the conference telephone call. Some groups needed and used conference calls more often and more effectively than others. Conference calls allowed group members to converse usually for half an hour to an hour and a half, and work out details of planning and coordination that could not be dealt with quickly or conveniently through the mail. Quarterly progress reports were required of each group, outlining productivity, significant problems, and changes in schedule. Impending snags in group process or in research design and problems with the home institution that needed attention were identified through these reports. A project newsletter was circulated to more than 700 individuals, schools, and agencies, including the participants and their deans. In it we provided progress updates on the different groups, notices of nursing research events in the region, and helpful information on such things as seeking research funds and writing for publication.

A second major aspect of facilitation has been providing technical expertise, through consultation, that the participants needed to make their research as sophisticated and substantial as possible. Identifying and developing rapport with locally available consultants is important to each participant seeking to continue in research after this project is completed.

Developing Research Programs

Looking to the future, these observations on the collaborative process are relevant to individual schools interested in developing programs of research. A program is a theme, broad issue, or other selected focus to which a team of people are committed for an extended period, usually several years. The team may be several faculty or possibly one faculty member and a group of students that has turnover as they enter and leave the program. At least one person on the team must have expertise in the content area and in the research process, but beyond that the process of developing studies involved in the program is largely collaborative. Programmatic research requires a common understanding, a mutually accepted frame of reference. Developing the team to reach a high level of understanding among its members may require several months of regular effort — several hours a week — during which terms are defined, an extremely broad area selected then narrowed, and specific research questions developed. Each team member may direct a separate investigation but may also contribute to the process of the other studies by critiquing a proposed study and by assisting with data collection, analysis, or interpretation. As an institution's or faculty member's research program grows and research results are published, it will develop a reputation for its selected focus and will attract students and faculty interested in that selected focus. This is when nursing's body of knowledge will grow and substantial progress will be made in the care we provide.

Collaborative Research by Faculty: A Dean's Perspective

Emilie D. Henning, Dean
School of Nursing
Florida State University

My association with the Nursing Research Development in the South project has been twofold — first, as a dean of a school of nursing from which one of the faculty researchers was selected, and second, as a colleague who served as a consultant to one of the 19 groups involved in the project, namely, the group studying the use of the clinical laboratory in nursing education. So my remarks here about collaborative research will be pragmatic, not theoretical.

As a result of having a faculty member from the School of Nursing at Florida State University participate in this collaborative research project, I have been able to identify five essential factors which should be considered by a dean, director, or chairman who is encouraging faculty to engage in collaborative research.

Emotional Support

The first and perhaps most important factor is support — in this instance, emotional support. Any person doing a research study has many moments of uncertainty. A person doing research as part of a group composed of others who are many miles away experiences this uncertainty to an even greater degree. The needed support can be provided in many ways, depending on the specific needs of the researcher. The best way to describe this support is caring — concern for and interest in the researcher's effort at all points of the project. I hope the support I attempted to give and the concern I expressed were interpreted as signs of caring and not probing. Perhaps many of you can recall your experiences during the thesis or dissertation stages. Surely you remember how you needed to lean on colleagues and advisors during those stressful periods. Because most of us are not seasoned researchers, we need others to whom we can express our doubts and who will help us validate our ideas.

Release Time

The next most important factor is providing the individual with release time. Collaborative research takes more time than solo research because of the requirement for continuous communications between team members. Release time for a faculty researcher can be provided in many ways, for instance, serving on fewer committees, carrying a lighter teaching load, or having lesser expectations in the area of service. This should not be construed to mean a continuously lighter teaching load, but rather, lesser responsibility at peak periods of the research process. To do this requires that you know your particular faculty member's responsibilities in the study and approximate times when these responsibilities will be the greatest. In the particular group study in which Florida State engaged, the data analysis was done at our university computer center. Needless to say, the nurse researcher from our school who was responsible for arranging this would need time to confer with the programmer, get the data forms ready for analysis, and review the computer printouts. Although it was planned that these events would occur during a specific term when the researcher's teaching load had been reduced, unexpected problems occurred delaying the data analysis to the subsequent term in which the usual teaching load had been planned. Despite this, the researcher managed. I believe that knowing that the administration at least tried to recognize one of the peak periods helped to sustain the researcher through the subsequent term and its normal demands.

Well-Planned Budget

The third factor is providing for a flexible allocation of expenditures. Initially, it was identified that the institution's financial contribution would entail travel and per diem expenses to group meetings. The number of meetings scheduled had to be increased for the collaboration of the group and for coordination of their activities. (Conference telephone calls were used but were not totally effective.) In addition, the cost of printing questionnaires and use of computer services increased the anticipated expenses. Fortunately, a very liberal allocation based on a budget submitted by the researcher had been made. This, plus the university making restricted funds available for faculty research, resulted in affordable expenditures by the school. I would recommend to my colleagues that they request an annual budget from a nurse researcher involved in collaborative research and then increase such a budget request by 25 to 50 percent, especially during the first year of study. Many unexpected expenses can develop during the researcher's first year on a collaborative research project.

Publicity

A fourth factor which will sustain a collaborative nurse researcher and encourage other nurse colleagues to participate in such endeavors in the future is to publicize the individual's efforts. This adds to the person's feeling of worthiness and attaches a high value to research efforts. It is my hypothesis that if all faculty researchers in collaborative projects received such support from their administrators and colleagues, the studies would progress in a more expeditious manner and more faculty would be motivated to pursue research studies.

Identify Support Services

A final factor which facilitates collaborative research is for the administrator to help the faculty researcher identify university support services and their use during the progression of the research. Many faculty are new to a particular institution or, even if not new, are hesitant to seek out other departments to determine what services they provide. An administrator should know what services are available and help the faculty researcher initiate contacts. Printing, computer, and media centers provide some of those services frequently used by researchers. Colleagues in other specialized departments, such as instructional design and statistics, are often willing to offer their expertise to faculty collaborating in a research study. To have the administrator and faculty member cooperatively seek out such services conveys a feeling of support to the researcher and the notion, to those contacted in the service departments, that this research is valuable.

By now some of you may be reacting to these factors by interpreting them as simplistic. Perhaps they are, but the poor history nurses have in undertaking research can be attributed partially to a lack of one or all of these factors. We are still in an era where nursing faculty are often reluctant to conduct a research study. Many nurse educators still hold some mystical fear of research studies. But once they experience research, often first as a collaborative adventure, their attitudes are more positive and their motivations are greater for pursuing further studies. This enthusiasm is often like a communicable disease; transmitted to other colleagues in the same institution, it results in greater involvement of all faculty in research.

It is my belief that until we reach the era when all nurse educators hold doctorates and, thus, have experienced the research process firsthand and under faculty guidance, it behooves us to support the use of collaborative research for faculty. To do otherwise would be ignoring their development as faculty and abdicating our roles as administrators. This universal need for supporting the faculty/researcher is the basis for a plea to continue collaborative research which can use the best facilities and support services of each institution in the South to meet the needs of a particular group of faculty engaging in research. To me this is a significant point. In this time of limited funding to institutions of higher education, resources and facilities need to be shared in order to use the best of what is available. That is one of the real values of collaborative research.

Perhaps by now, my personal philosophy regarding research is evident. I believe that nurse faculty should have the opportunity to engage in research, either educational or clinical. I also believe that the administrator of a nursing program can serve as a facilitator and supporter of faculty engaged in research. I further believe that we must all place greater emphasis on the role of faculty as researchers and provide for this in order to justify our being in scholarly institutions like colleges and universities. But more important to us as member institutions of the Council on Collegiate Education for Nursing, we must promote research in nursing education in order to meet the goals of this organization and help maintain the new South's reputation for innovation and progress.

Collaborative Research: Trick or Treat? A Faculty Point of View

Janet Burge
Associate Professor, School of Nursing
Florida State University

I must confess that this was my first involvement in doing actual clinical research outside the research for my doctoral dissertation. So as a novice, I had two illusions to overcome. One was my own feeling of inadequacy to do research without the direct "supervision" of a major professor; the second was that there would be at least one person in the project who wanted to research the same thing I did. Both of these illusions stayed with me throughout the two-day organizational meeting held in Atlanta three years ago.

Forming a Group

Somehow, in the process of the group dynamics at that first organizational meeting, people began to sort themselves into working groups based on research interests. Since I had not migrated into a group immediately, I found myself sitting alone in the middle of a very large room for almost the entire two days.

Needless to say, I was becoming an embarrassment to my dean who was present as a consultant to the project. Everyone, including myself, was getting very nervous. During the last coffee break, both consultants approached me, and Dr. Jean Kelley said: "Janet, we have got to get you into a group fast." I responded by saying, "Yes, I know, but no one wants to research what I want to. Can I do a study by myself?" Dr. Kelley looked at me and quietly whispered "I don't think so, this is supposed to be collaborative research!" I returned to my seat in the center of the large room. I was beginning to feel somewhat like Supreme Court Justice Oliver Wendell Holmes did when he found himself on a train, but couldn't locate his ticket. While the conductor watched with a smile on his face, the 88-year-old justice searched through all of his pockets without success. The conductor said to him, "Don't worry, Mr. Holmes, you don't need your ticket. You'll find it when you get off the train and can mail it back to us later." Mr. Holmes looked up with some irritation and said, "My dear man, that is not the problem at all. The problem is, where am I going?" Fortunately, I did find a place to go, and joined a research group.

Our group was destined for success from the very beginning. We used, by some standards, a rather non-scientific process for determining if the group members could work together. It was called, "What is your zodiac sign?" Granted, this process is not an absolute criterion for successful collaborative research, but with the way my luck in the project was running, I could hardly afford not to give it every consideration.

Tricks and Treats

I, as well as most group members in this project, have learned that there are several factors which are essential for facilitating collaborative research. First, there is the commitment of the dean. In Keisler's research on commitment, he defines it as "the behavioral acts of one's thoughts." Dr. Jean Kelley describes the lack of commitment as being "the sin of thought without action." From my perspective, the actions of a dean which are necessary to promote collaborative research involve: (1) release time from scheduled teaching responsibilities, (2) emotional support throughout the faculty member's efforts in the research project, and (3) providing the necessary money and secretarial support for the faculty member to carry on the research.

In my personal experience in the project, my dean was engaged in all three of these activities. I was given release time for one quarter and selected the quarter when our group anticipated that the data would be in and ready for computer analysis. That's when Goblin No. 1 raised its head, and I found myself doing the data analysis during the next quarter, in addition to my full-time teaching responsibilities. Even with the best of plans, data may not be collected according to a time schedule. It was also at about this same time that Barbara Mauger, the project director, elected to send out one of her questionnaires to see how everyone was doing. One of her questions was, "How many hours per day or week are you able to spend on the project?" Needless to say, I was tempted to respond with, "a snatch here and a snatch there," but I didn't want to distort her statistics so I responded with a "when I can find time!"

A second factor which I believe to be essential for collaborative research is the commitment of the researchers in the group to lay aside their individual and vested interests in the project, become a true group, and work toward the successful completion of the research. In our group, we started off with statements such as, "I think we should..." or "I want to look at...," but gradually came to the idea of "we should consider...." It took our group awhile to recognize that we could not complete the task we had selected for ourselves, by ourselves, and that each of us had a particular expertise which was needed to complete the project.

Betsy Bowman from the University of Texas at Austin became the Conference Call Expert and the informal group leader. Kathleen Stevens from the University of Texas at Houston lovingly became our Fanatical Reliability Expert. She consistently insisted that the instrument we developed must have reliability. All of us knew this step was necessary, but she was the one who put the thought into action and assumed responsibility for doing that portion of the study. And then we had our Quarterly Report Expert, Vivian Deitz, from the University of Western Carolina.

Our group completed our research project essentially out of commitment and persistence, and by use of this motto, which got us through each day of the project: "Eat a live toad the first thing each morning, and it will be the worst thing you'll have to face all day."

The third factor which facilitates collaborative research is the accessibility of a computer programmer for the group, that person who can listen to a vague description of what you want to test, then turn around and develop a program that will actually test it. Be careful now, another goblin is about to raise its ugly head! Our group found it necessary to make an additional computer tape containing the data of the project so we could move the data from one campus to another as a result of our meeting sites being changed.

Our original programmer was out of town at the time, so I was asked to get help from a new one. I shall never forget the experience! I went to her office, introduced myself, and told her we were in need of a second tape that could be taken to Texas the following day. The first question the programmer asked was, "How many programs do you have on the tape? If I know that, I can tell you if we can get it ready for you by tomorrow." Now, as you might have guessed, I looked at her rather questioningly and said that we had only one program ... our research. She looked back at me and immediately I knew I was about to encounter Goblin No. 2, which I have named "Language Barrier." Again, she asked me how many programs were on the tape. I realized I was being required to give her some type of intelligent answer, so I replied, "I'm not sure how many there are, but would it help if I told you that the first computer print-out is six inches high and can be carried in one large, black Samsonite suitcase?" She smiled — nicely I might add — and said, "Why don't you come into my office and we'll start from the beginning." I found out that there were five programs on our tape, and I did obtain a copy in time to take it to the meeting in Austin the following day.

Supporting Faculty Research

Many deans supported this nursing research project from the beginning. They supported it by allowing the Council to write the grant which was approved. They supported it by committing faculty from their schools and programs to participate in it. But now, their job is just beginning. The real test of this project will come as they start to use the expertise of the project participants. Most of the participants still need support. Deans should promote the sharing of their results with local faculty groups. This will allow participants to help other faculty begin collaborative research at the local level. Researchers can and should be expected to publish and disseminate their results. There has been a wealth of information generated through these projects and we are obligated, I believe, to see that this is shared.

Publishing Research Results

Publishing in Refereed Journals: Three Journal Editors Comment on Their Work

Carolyn F. Waltz
Evaluation and the Health Professions

Harriet H. Werley
Research in Nursing and Health

Florence Downs
Nursing Research

On October 31, 1979, at the fall meeting of the Council on Collegiate Education for Nursing, three research journal editors met with nurse researchers and educators to discuss the purposes of their journals, relationships between editors and authors, how submitted articles are reviewed, and the pitfalls that frequently await unsuspecting authors and editors. The following excerpts are divided into the four subject areas covered by the editors.

The Journals and Their Goals

Waltz: Let me give you a little background about *Evaluation and the Health Professions* and how it came to be. It was more or less like we were the new kids on the block. In the summer of 1977, a colleague and I, Barker Bausell, at the University of Maryland, identified a need for an outlet to report evaluation research results and also for a medium that would contribute to improving evaluation for evaluation research. So, with very few resources and lots of guts, we approached some leaders in a number of professions and attracted, we thought, a rather prestigious editorial board who agreed to serve as reviewers in support of this new endeavor. And at the same time, we edited and published *Evaluation and the Health Professions,* which appeared for the first time in the summer of 1978. The journal, in terms of numbers of subscriptions and manuscripts, grew rapidly, and the technical aspects of publishing became more than we ever anticipated. Therefore, in the fall of 1978, we merged with Sage Publications of California and London, who now do the publishing, while we do the editing, and that's a much nicer arrangement.

The main purpose of our journal is to provide a forum for health professionals interested and/or engaged in the development, implementation, and evaluation of health programs. We have represented on our board experts involved in nursing, medicine, pharmacy, dentistry, medical education, medical technology, nutrition, physical therapy, occupational therapy, allied health, public health, mental health training skills, and research, evaluation, and measurement.

Our primary interest is in publishing results of recent and important evaluation studies. In addition, in each issue we attempt to include certain other features. First of all, there are reviews of the literature. What we are looking for mainly are comprehensive reviews that more or less lay out a state of the art and suggest future directions for evaluative activity in research. We have a section that we refer to as "Perspectives on Evaluation," in which we concentrate on articles that address the special philosophical, political, and technical aspects of evaluations in the health professions. We also have something that we refer to as the "Methodologists' Corner." That particular section is directed to educating and upgrading the health professional's knowledge of useful evaluative strategies and techniques, as well as demonstrating those techniques in a practice setting.

In addition, we are interested in progress reports — which essentially are articles that describe some kind of program innovations or research coming out of the professional schools that is not yet complete. In other words, progress reports or brief updates of ongoing research. We also look for book reviews and a draft book that will be of interest in evaluation across the profession. Then we have a section that we call "The Forum," which is an area of the journal where we attempt to provide an opportunity to get people who are involved in evaluation across the profession interacting with each other through letters about the journal content or any areas that are involved with evaluation.

Looking ahead and acting on the suggestions of our board, we are moving to put out special issues periodically that will address one special theme or topic.

Werley: *Research in Nursing and Health* is a relatively new research journal. It is a quarterly; it is in its third year of existence; and I believe I am right in saying that this is nursing's second research journal. The development of this journal came about because of the need for an additional research outlet. When there are too few research outlets, there are delays in getting essential material published. So it is natural that nursing would develop new journals as the need arises; for certainly, any growing profession or scientific group has a responsibility to provide outlets for its research reporting and scholarly writings.

The scope of what might be published in *Research in Nursing and Health*, or *RINAH,* as we call it, is broad and is described in the information for authors which is published in each issue. Some of you may be familiar with this material and some may not, so I will go over it.

We invite manuscripts that report original research in the area of nursing practice, education, and administration, also health issues relevant to nursing, and investigations of the implementation of research findings in clinical settings. A theoretical paper is acceptable if it advances research and knowledge. Preference, of course, is given to papers which develop theory rather than review it. Methodological papers are acceptable if the issues discussed are aimed at the solution of research problems in nursing or health, or aid in developing needed methodology. Integrated reviews of research literature may be accepted if they identify gaps in knowledge and provide research directions. Critical reviews of new books and other publications on research and theory may be included. Commentary on published articles is encouraged.

Downs: As most of you probably know, *Nursing Research* is the oldest refereed research journal in nursing. It was established over 25 years ago by a group of volunteers. Helen Bunge was the first editor and had a volunteer advisory board. I often wonder about people who have such pioneering kinds of ideas at a time when certainly other people do not see this as any kind of a priority. Over time, *Nursing Research* gradually evolved into a journal that had a full-time editor employed by the American Journal of Nursing Company, which is associated with ANA. Its board of directors includes individuals who are with ANA. Over the years, *Nursing Research* began to lose more and more money. It was an *avant-garde* journal, and nursing still had not arrived at the stage where it was ready to work its way into the research process as we now know it. About two years ago, the situation became extremely critical because of the amount of money *Nursing Research* was losing. It was at that point that the American Journal of Nursing Company made the decision to turn *Nursing Research* into the kind of voluntary journal that is seen in so many other disciplines, mainly one that is managed out of academia. It was at that point that I became the editor.

A number of people are confused by this whole thing. They believe that this is a publication which is under the auspices of the University of Pennsylvania. This is not true. It would be an extremely unwise move for any company to put an academic structure between an editor and her journal. Could you imagine what would happen if my dean decided for whatever reason that my editorial policy should be X, a policy with which I did not agree. So naturally, there can be nothing between the editor and the publication.

The purposes of *Nursing Research* are quite similar to the two other journals. Mainly, our purposes are to communicate research findings, not only those that are completed but also those that are in the process of completion, or at a point where some kind of definitive idea can be advanced in terms of the progress that particular research is making. We also encourage thoughtful review articles, and to some extent, *Nursing Research* attempts to serve an educative function through articles on methodology, and through solicitation of particular types of articles.

I am also extremely fortunate in having a backup staff. I have the graphic arts department of the journal company, so happily, I do not have to worry about those kinds of things. I am responsible for the bottom line of the journal: How much money it either makes or doesn't make. I am responsible for setting the policies, and I have considerable power to make any decision. I am happy to tell you that, in case you have heard to the contrary, *Nursing Research* is off the endangered species list, and we are now in the process of putting a few feathers back on it. I feel extremely happy about the way things are shaping up. There are lots of rumors about an immense backlog that had piled up. There is no backlog, for any accepted manuscript can be published easily within eight months; and that, for a journal which is published six times a year, is well within the standards of most journals in other businesses.

The Review Process

Waltz: Let me tell you a bit about our referee process since some of you might be prospective authors. First, if you are in doubt about whether or not a particular manuscript will meet the purposes of the journal, I would encourage the prospective author to call or write about the idea. One of us can help, either Dr. Bausell or myself. Also, it's a good idea to use our guidelines when preparing manuscripts if you are interested in the journal, because Sage Publications does, in fact, have a format that differs slightly from that used in other journals.

In terms of the refereed process, once an article is received, the author is first notified by mail that we have received the manuscript, and that it has been entered into the process of review. The first review is a rather cursory one, conducted by myself and Dr. Bausell, in which we screen manuscripts to see if they meet the purpose of our journal and would have wide interest from professionals. We also screen articles for methodological or conceptual flaws.

When an article or manuscript has reached the second stage of review, it is then sent to at least two reviewers who are experts in the areas addressed by that particular manuscript. The reviews are conducted anonymously, and reviewers are asked to complete their reviews within four weeks — sometimes shorter but often longer. The reviewers have four options or four decisions they can make based on their review. They can recommend publication as is. They can recommend publication with revision. They can say, "No, don't publish at this time; have the author revise the manuscript and then send it through the review process again." Or they can recommend that it be rejected.

If anything but the unqualified acceptance is recommended by the reviewers, they are asked to forward their suggestions and comments regarding the revisions that should be made and/or their rationale for rejection. So we do attempt to provide some feedback, not simply accept or reject.

Once the separate decisions of the reviewers are in, then Dr. Bausell and I collaborate on the editing. In some cases we have very bad disagreements about what should happen to a manuscript, and in other cases the final decision can be very easy. In those cases where we have a disagreement among reviewers, either we will make the decision, or we will send it to another reviewer. This entire process takes approximately three months. The decision about whether or not to publish is sent to the senior author or first author listed on the manuscript. At that time, authors also receive reviewers' comments and a copy of the edited manuscript. The intent is to keep the entire process running as smoothly, efficiently, and briefly as possible.

Werley: You probably know that the definition of being refereed varies and is often little understood. It is for this reason that there is currently underway, in the Midwest, a study of the review process as it pertains to 60 or more journals in which nurses publish. This study is being conducted in conjunction with a continuing project entitled, Midwest Data Base: Doctoral Nursing Resources, for which I am the program director and Beverly McElmurry is the project director. As part of the directory of this project, publications of the doctorally-prepared faculty of the 33 participating schools are listed. And the question always arises as to which are published in refereed journals.

To what extent this survey will clarify the meaning of the refereed process or at least tell us how it is handled by the respective journals, we will have to wait for their report. In December, at the Council of Nurse Researchers' annual meeting, Beverly McElmurry and Joan Newcomb had a poster presentation describing the project. They also plan to publish the results of their survey.

From time to time, editors of different journals will have an editorial on the referee process, the most recent one being by Thelma Schorr in the October 1979 issue of the *American Journal of Nursing*. If you read the Schorr editorial, you can tell that authors are becoming more cognizant of the need to exercise sound judgment in selecting the journal to which they send their manuscripts, and they are pressing editors for answers to their questions about whether or not the respective journals are refereed. There is a whole body of literature in the area of the referee system going back to the 17th century. Unfortunately, I don't have time to review that for you. It all boils down, however, to the fact that the referee system is a form of quality control in the area of scientific communication. The control works to some extent by anticipation, for as Zuckerman and Merton say, "Knowing that their papers will be reviewed, authors take care in preparing them before submission. All the more so, perhaps, for papers sent to high ranking journals with the reputation for thorough refereeing."

Now why is it so important to publish in a refereed journal? Simply because it indicates the caliber of your publication. The importance of being published in a reputable refereed journal was observed by Ziman: "An article in a reputable journal does not merely represent the opinion of its author, it bears the *imprimatur* of scientific authenticity, as it is given by the editors and referees that are consulted. The referee is the linch pin about which the whole business of science is pivoted."*

Another reason for publishing in refereed journals, as I am sure many of you have experienced, is the increasing emphasis that is being placed on refereed publications for appointment, promotion, and tenure. And as you write proposals for research projects, the review groups in Washington always look at the investigator in terms of what research this individual has done, and how and where it has been reported, in refereed or unrefereed journals.

The referee process as it is carried out for *RINAH* is as follows. All manuscripts, original and three copies, are mailed to the editor and are logged in. Staff members read the abstracts to learn the content and method, thereby suggesting prospective reviewers. This list is turned over to the editor. The editor rechecks the abstract and the manuscript, also looking over the backgrounds of the reviewers to see if the content area and methodology are in keeping with the kinds of interests and expertise that specific reviewers possess.

We have an expert editorial board, the members of which are themselves reviewers. In addition, we have an extensive review panel. After choosing three appropriate reviewers, copies of the manuscript go to all three simultaneously, with the request that their reviews and comments be returned within three weeks. By insisting on this deadline, we can let authors know our decision within about four weeks. The editor and the associate editor also review manuscripts. The reviewers' comments are photocopied and mailed to the authors. Acceptance, rejection, or revision is based on reviewers' comments.

I should say that to date no manuscript has been accepted outright. They all have gone through the revision cycle. I have checked with a number of editors of other journals from different disciplines, and they, too, tell me that for the most part their manuscripts go through at least one revision and sometimes two major revisions.

We carry an announcement in the journal asking that people volunteer to be reviewers; we ask that they send us curriculum vitae along with a statement of their areas of interest and competence. This is not an experience that is accorded individuals for purposes of learning the review process; rather, reviewers are to be experts that will help us come closer to quality control of the publication.

Downs: *Nursing Research* is a review-process journal. However, I do have the right as the editor to set priorities and to accept out of hand material if I so desire. I rarely, very rarely, do such a thing. The review process is a strict one. There are over 60 experts on our review panel, whose members are scattered throughout the United States and Canada. Some people believe that this is a body of individuals who meet somewhere and make decisions, which is, of course, not true.

When a manuscript is received, an acknowledgment of its receipt is sent. If you do not receive such a message from any journal, please write. The United States Postal Service has many, many cracks in its floorboards, and many things can go down in those cracks. Therefore, if a month should go by and you hear nothing, please inquire. Very, very strange things can happen. One manuscript somehow wound up in Alaska at the *Journal of Anthropology* or something like that, even though it had been addressed to *Nursing Research.* It had to be returned to the author and then it went out again.

I would say that at least once a month I get an inquiry about a manuscript that has not been received. You must also realize that it's not only the U.S. mail that we're trying to contend with here. Any of you who are attached to a university or other service agency with mailrooms must know that there are a great number of problems there. I am of the opinion that if anything drops on the floor it gets kicked under the table. I have people that call me on the telephone and tell me that they have received empty envelopes. My theory is that the contents fell out while it was in the mailroom and someone continued to run the empty envelope through the machine.

When a manuscript is received, I go through it to screen out things that are completely inappropriate. I also screen out manuscripts that are far, far from the format which we require. I've simply given up asking reviewers to waste their eyesight on what simply is not worth it. We receive close to 300 manuscripts a year, and I do not

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*Both quotes from Zuckerman, H. A. and Merton, R. K. "Patterns of Evaluation in Science: Institutionalism, Structure, and Functions of the Referee System." *Minerva,* Vol. 9 (January 1971), 66-100.

think it is fair to put this kind of burden on people who already have very heavy commitments in other areas. Therefore, I do some preliminary screening. Then, manuscripts go out to at least two reviewers who are requested to return the manuscripts within a month. From time to time we have difficulty with reviewers, but for the most part I think they are quite diligent.

When the manuscripts are returned by the reviewers, who have the option of accepting, rejecting, or advising revision before further review, I look at the comments, and then I review the manuscripts. If there are areas of discrepancies in the reviews, I check those out. I may make a decision at that point to proceed in any direction. I may send the manuscript to a third person, who may or may not be on our review panel.

Sometimes quite complicated questions arise about methodology. One of the beauties of being in academia is that you have a whole university from which to choose experts who can make certain kinds of decisions about technical material that you may not have the expertise to handle. For example, very recently I had an article dealing with care of postneural surgery patients, particularly those who were comatose. The University of Pennsylvania's vice president of health affairs is a neural surgeon, and it happens that that area of neural surgery, the nursing care of individuals, is exactly in his area of expertise. So I sent him that manuscript, and he was absolutely thrilled to think that I would consider him to be a person that I would ask to review this article. In academia this kind of a process is considered one of very high prestige. He did a super job on this particular review, absolutely super. Incidentally, it led to his proposing that nursing in the department of neural surgery have a conference on the care of comatose patients, which I thought was really marvelous.

I've had some difficulty in regards to our review process because it is not set up for feedback to authors. We are in the process right now of taking care of that particular problem. If you receive a letter indicating that your manuscript has been rejected, and you wish to have additional feedback, all you need do is write and I will collate all the material and send it to you. Until such time as we get this review process a little better straightened out, this is the way we will have to handle the situation.

Editor/Author Relations

Downs: My personal feeling, in addition to the purposes of the journal, is that I am very anxious to set up a working relationship among the authors, the journal company, and myself. In other words, I feel as though one of the problems that we have had for some time is that the authors themselves have not been actively involved in the process of revising and putting together the necessary changes that need to be made in their manuscript. I knew before I became the editor that things were going wrong in the publication because there were lots of errors in the copy. So, when I went to the journal company, I was anxious to give more accountability to the authors. I went to the circulation people, and I said, "Now this is what I intend to do. I am going to send the typescript to the author" — which was always done — "and then the author is also going to see the galleys."

On the first go around the author is asked to go through the typescript, answer any questions that are in there, make any revisions that need to be made, and return the typescript to the copy editor. Then, the copy editor will get it ready in the galley form and will return the galley proof to the author. At this time, the author is again asked to go through the material. If there are errors in that copy, made by the printer, then the printer has to pay for the mistakes. However, if the author makes a decision to change the manuscript, then the author pays for it, a procedure which is followed by many journals.

The monthly authors' alteration charges that are being incurred amount to at least $1,200, and that is a lot of money for correcting errors in copy. I think this process brings the author in much closer contact with the editor and the whole philosophy of working through the bugs that are found in manuscripts. Incidentally, in the six months that we have been doing this with authors' manuscripts, I have rarely seen an error, and the authors are often called if there is going to be a charge, usually by the copy editor, who will say, "I hope you realize that if you do this, it is going to cost." And the author may say, "Then forget it, I'm not going to do it." Or she might say, "It's well worth it. I want to proceed with that particular change."

I do not do editing myself — my managing editor does it. I go through all the comments by reviewers and make suggestions to my managing editor about things that she may want to do. If there are to be extensive revisions or shortening, it will be returned to the author to make those decisions. At one time, the copy editor was doing that, but I am simply not willing to have that done any longer. I feel like it alienates authors to get back a manuscript that's been greatly cut. They feel as though the heart and soul have been cut out of the manuscript; and it may well have been. I feel that authors are much happier when they are told, "You must cut this by 20, 30, or 40 percent." Then they can decide what they think is important, what must go and what must stay.

Advice to Authors

Werley: We have adopted the American Psychological Association (APA) *Publication Manual* guidelines to be followed in preparing the manuscript. Some of you may be familiar with it. I always carry it around with me because of the work I do. These guidelines adhere to the classical way of reporting research, that is, an introduction; method, with its three subparts (sample, instruments or measures, and procedure or how the study was conducted); results; and the discussion. These APA guidelines are the most widely used of any, are the easiest to follow, and if followed strictly, are the most likely to result in a clear, logical, succinct, and scholarly research report.

Unfortunately, many authors insist on doing everything but follow the guidelines. It is almost as if they cannot comply or do not want to be conformists. So some of the manuscripts we receive are jumbled, with authors hopping back and forth between the sections that they should be developing. With this kind of writing the manuscript is confusing, poorly written, and often filled with many, many, many unnecessary headings.

I have begun to understand why many journals include in their instructions to authors a statement that unless manuscripts are prepared in accordance with their guidelines they will be returned without review.

In the beginning years of *RINAH,* we have tried to be patient and to put up with some of this lack of adherence to the guidelines, but it is extremely tiring for both the editors and the reviewers to have to wade through such poor presentation of material. I cannot urge strongly enough that before you submit a manuscript to *RINAH* (I don't care what you do for other journals.) please read our instructions, and you'll see they refer you to the APA *Publication Manual.* Then read in the *Manual* the sections on abstract, introduction, method, results, and discussion. If you are thoroughly conversant with what is to go into each part, you cannot help but develop a logical presentation of your research.

Too often, I think, authors do not value what it means to follow the APA format, and they think that when they cite references in a text by last name and year of publication in parentheses they have followed the APA format. There is much, much more. An author cannot write a good manuscript without using these guidelines, so you must become conversant with them.

The *Journal of the American Medical Association's* instructions for authors, published in 1979, include this statement which I think is worth remembering, "Attention to details of syntax, grammar, and spelling may be as important as accuracy of fact and originality of idea for transmission of information." The *JAMA* instructions also stress clarity, brevity, and pertinence; I would certainly advocate the same, because we cannot have people going far afield of what they actually did in their research. With poor, jumbled, confused writing, the writer really turns off the reader, and the reader never gets to the essence; therefore, you get poor reviews simply because of poor presentation.

Now I cannot stress too much the fact that you should also get local colleagues to critique your paper when it is in draft form. Other disciplines do this routinely. If you look at other disciplines' journals, you will often see articles containing the following sort of footnote "I am indebted to so and so for the critical comments he or she made on an earlier draft." We should use that mechanism more ourselves. But I would warn you, don't just go to your friends, because they will not always tell you what is wrong with your manuscript. Go to the people who are scholarly writers themselves; go to the ones that have written and passed the test themselves of getting published in refereed journals. Only they can be of help to you.

Now, no matter how carefully a manuscript is prepared it cannot correct what is poor research in the first place. I want to make that clear. You can't make a silk purse out of a sow's ear. What is poorly designed research in the first place, cannot be made good just because it is well presented.

Then there is the matter of small samples. I have heard Florence Downs speak of this, too. If you have too small a sample, don't send a manuscript in for publication. Consider the work a pilot and then go on to design a better piece of research with an adequate sample.

I want to say that in addition to the APA *Manual* there is another writing guideline that is good for people who like to write theory articles. The book by Carolyn J. Mullins, *A Guide to Writing and Publishing in the Social and Behavioral Sciences,* has a number of outlines for different kinds of writing, and one of the kinds pertains to theory. This book has an excellent table of about 500 journals listed with their respective characteristics, including the format to be followed. You will see that the APA format is advocated for many of these journals, so it is a good thing for you to know about and become conversant with the APA *Publication Manual.*

Downs: Every edition of *Nursing Research* carries author guidelines. Please consult them. I ask that query letters be sent to me mostly because I would prefer to save people the cost and time involved in sending manuscripts that are totally inappropriate for this particular journal. Like the *RINAH* publication, we also use APA style, and you are urged to adhere strictly to that format, unless for some reason this is absolutely impossible. Then you should call and consult with us. There are certain kinds of historical articles that probably will not fit neatly into this format, and we will make exceptions. But there has to be a good reason for any particular exception.

I have to say "Amen" to the comments with which Harriet completed her discussion. I didn't know whether I should be a grouch or not, but since Harriet started I'll help her out.

My first experience with *Nursing Research* was frightening to me. I got these very strange manuscripts, and I, as Harriet, attempted to be very patient with this and try to work with it. Then, one day a very large carton came and it was four dissertations, four copies of each dissertation all in their black binders. That was the day when I gave up. I put them back in their cartons and returned them to their authors. Since that time I have become much more strict about adherence to guidelines.

You have no idea what a revelation it is to be an editor — the things that happen to you and the kinds of things that come in the mail. You learn how to be very diplomatic, because you get some very irate telephone calls. I received one from a gentleman who was very upset about his manuscript being rejected. He said, "Before I sent it to you I had two people review it for me who were nurses." I said, "Were they friends of yours?" He said, "Oh, yes." So I said, "Try your enemies." With a critical review, you may not like what people say to you. Nonetheless, it is far better to have it done then than to have a piece put into any journal which is later on going to prove an embarrassment to you.

Reporting Your Research: Advice to Writers

Elizabeth Tornquist
Lecturer, School of Nursing
University of North Carolina
at Chapel Hill

Preparing to write an article is always much the same: first, you have an idea; then, you gather materials; and finally, you decide what to put on paper. Any subject can be described in dozens of different ways, and you must choose your own way — the focus, the organizing principle, the message, the meaning of it all. For the research report, however, some structural assistance is provided by its four-part framework: Why I Did It, What I Did, What I Found, and What It Means.

Framework for an Article

The Background or Introduction (Why I Did It) gives the rationale for the study. This opening section briefly explains the problem studied, reviews the literature, and shows why the study was needed to fill gaps in our knowledge, clear up remaining problems, resolve contradictions, or chart new territory.

The section called Methods (or What I Did) tells the story of the research. It begins usually with a two- or three-sentence introduction which gives the reader an overview of what's coming, a framework on which to hang the details. For example:

> This study was designed to assist nurses to intervene with and reduce stress perceived by patients in a CCU. The investigators questioned CCU patients about stress after their discharge from the unit and, on the basis of this information, conducted an in-service class that emphasized those stressors thought to be directly alterable by nursing intervention. The effectiveness of the program was evaluated by comparing the amount of stress perceived by patients before and after the in-service class.*

Brief, clear, complete. The readers see the whole study, know where they're going.

Then follows a description of setting and sample, the intervention (if there was one), the tools used to collect data, and the procedure for collecting the data (unless this has been made clear along the way).

The Findings or Results section (What I Found) presents and interprets the data (both numerical and anecdotal). Here you must decide whether to present all the findings in a series, saving the discussion for later; or present one piece of information (or a little group of related findings), make a comment, then present another few points, comment, and so on — leaving only the general conclusions for the end. The decision should probably be based on how many pieces of information you have to present, and how many of these will need to be repeated for clarity's sake if the comments are saved until later.

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*Quoted from Hoffman, Donckers, and Hauser. "The Effect of Nursing Intervention on Stress Factors Perceived by Patients in a Cornary Care Unit." *Heart and Lung,* Vol. 7, No. 5 (1978), 804-809.

Finally, the Discussion, Conclusions, and Implications section tells the reader what it all means. This section must answer the question, "So what?" So what if you found that the moon was made of green cheese? What does it add to our understanding, what does it do to our theories about the universe? And what are the implications for nursing?

Understanding What You Found

Deciding what you have and what it means is often difficult; sometimes it becomes clear only in the process of writing — that is, meaning develops as you go, because writing is discovery. Eventually, however, the meaning must become plain or the article will lack coherence, for all the parts of the article must point in the same direction — toward what you can conclude from your research.

If you did what you planned and found what you expected, the basic four-part framework outlined above works easily. But you may have found the opposite of what you were looking for, or a muddle — a bit of this and a bit of that, four oranges, two apples, and an old peach pit: they don't seem to add up. Or you found only questions. Or perhaps you found something along the way which seems more important than what you were looking for (whether you found that or not); or you discovered that the problem you were trying to solve was not the most important problem. Perhaps you realize now that it's impossible to do the kind of study you meant to do. Or you made many mistakes that others are likely to make unless warned — that may be the most important thing you have to say. Or perhaps the theory you were using as a framework didn't serve and needs reexamination, or the tool you took from another author posed unexpected problems, or you developed a new tool which might be useful to others.

Any of these unexpected discoveries changes the direction of the article, requiring expansions here, refocusing there. If, for example, the introductory section leads the reader to expect one set of results (the results you yourself expected), when in fact you have found something quite different, you must refocus the beginning or the article will be disjointed. If your intervention failed to produce the changes you expected, but along the way you found a great deal of other useful information, the results section must be collapsed at one end (so as not to waste space on dissappointments) and expanded at the other (to discuss the new and unexpected).

Outline and Drafts

Making an outline helps to fit everything together in a logical order. An outline will give you a sense of the main parts, a checklist of the necessary points within each part, a roadmap for where you want to go. (If you can't bear outlining what you plan to write, move on to the first draft and then make an outline of the draft as if someone else had written it. That outline will show you where you've been traveling in circles.)

As you're developing the outline, think who your audience will be and imagine what they'll need to know. If you've developed an interesting new method of collecting data, your report may be directed most appropriately to researchers, who will want certain kinds of information and not others. If your results could be widely useful in patient care, your audience may be a broad population of practicing nurses, who will require a different emphasis. Or perhaps your article should be tailored to a special group — educators, therapists, community health nurses, etc. Remember that what you say depends, in part, on the audience.

Using the outline as a guide, it's sensible to write a complete first draft before making revisions (though some people will find that impossible). The first and last paragraphs are the hardest to write and the last to come out as you want, so if you find you can't produce an opening sentence, take a sheet of paper and mark on the top: Paragraph #1. Then get out another sheet and begin your draft with the second paragraph. If you get stuck along the way, leave room to come back and fill in, then go on to something easier. Avoid hangups at ticklish points. The aim of the first draft is to get more or less everything on paper. Don't worry about length — it's easier to cut than to compose; and don't struggle for elegance of style — it's easier to edit than to write.

When you've finished, it's time to look back at the literature, for the chances are that your findings will have given you a new perspective on what others have said, and there's also the possibility that something new has been said; if so, you'll need to point that out. It's often intimidating to read or reread the research of others before you've finished your first draft, but after that it's usually safe.

The next task is to revise the first draft for logic, clarity, and completeness. Outlining what you've written and comparing it to the original outline will help you get back on the track if you've wandered, or tell you how you've fruitfully (even if unknowingly) altered course.

The second draft should provide the readers (who know nothing of your study) with everything they need to understand what you did and what you found — and nothing more. Readers do not want a long survey of the literature to introduce your study; they can read those other authors themselves. They want only enough to place your work in a larger context and justify the doing of it; what is crucial is a cogent description of the study itself. If the methods are unclear, the findings are suspect; if the findings are incoherent, it doesn't matter how you arrived at them.

It's difficult for someone who knows everything about a piece of research to decide what another person needs and does not need to know. Getting a colleague to read your second draft is helpful if you can't decide what to include. Indeed, the more readers the better — they can tell you where you're fuzzy or disorganized, and sometimes give a hint of new meanings.

Remember, also, that tables can be used to provide summary information; tables are, however, expensive to produce, so use them only for essential data. The information in tables is not repeated in the text; the text interprets and comments on tables.

Your second draft should also begin to make clear the meanings of your work, but the final paragraphs which draw it all together and spell out the conclusions and implications are hard to write. They require critical reflection, and they are risky; you have nothing to protect you here except your own sense of what the data mean. These final paragraphs are also the most important in your article; they contain the value for others, the ideas and suggestions they'll use. So don't give up until you've explored all the meanings.

The third draft, at last, is to make sure that paragraphs and points are in the right order, every sentence says approximately what you want it to say, and every word has a function. Cut out words you can do without. Reading time is precious and readers tire easily.

Sending Your Article

By the time you're into the third draft, you'll probably have a good sense of the journals for which your article is appropriate. If you don't have some journals in mind, go back to the library and leaf through a batch to see what types of articles they publish, whether any have recently used an article on your topic (that journal is unlikely to want a second on the subject very soon, so it's a poor prospect), and which ones you'd most like to appear in.

Then, while you're writing the last draft, send off a query letter to the journal you've picked as the best bet. The query is designed to ascertain interest. It saves you from wasting time submitting an article to editors who are not interested in it. In the query letter, describe the article in one paragraph (or send a formal abstract) and ask if the editor would be interested in reviewing it for publication. Be modest without being obsequious. And be sure to address the letter to the correct person. No editor likes to be called by the name of the previous editor.

Usually it takes only a couple of weeks to get an answer from a query, much less than the time it takes to have an article reviewed. If the editors are interested, use their specifications to revise and retype your final draft. (They'll send the specifications, or you can look on the masthead page.) If they don't want your article, send a query to another journal, and then another; when you find some interest, submit the article. Then you must wait. Sometimes it's a long wait; and maybe in the end, you'll be rejected. If so, try again — and don't give up until you've published that article or published the one you wrote while waiting to hear about the first one.

Essentials of Good Writing

Kenneth Huggins
Project Assistant
Nursing Research Development in the South
Southern Regional Education Board

Great writing is an art. Its accomplishment depends on the writer's ability to marshal a host of intangibles — vision, perception, universality, intuition, chance, an ear for the music in words — and create a new way of looking at the world. Great writers are born, not made. They may work very hard to perfect their art, but there is a spark in them that cannot be passed to those without it, no matter how industrious the pupil might be.

Good writing is a craft. And any of us can be good writers, if we work at it. Its accomplishment depends on the writer's ability to follow certain precepts and use them effectively. The exact number and definition of these precepts may vary from time to time and from writer to writer, but the reason for using them remains constant: they enable the writer to communicate a particular message quickly and concretely. And that is what good writing is all about.

All human endeavor depends on communication, and despite the twentieth century's fascination with every sort of electronic telecommunication device (television being most prominent among them), writing is still a major form of communication. In the daily routine of our work, many of us are expected to do various sorts of writing: write letters, write memos, write reports, all with the goal of communication. We want to communicate decisions, opinions, interpretations, facts, and emotions in such a way that we can make an effect on whoever it is that we are communicating with. Writing communicates; good writing communicates what we intended to communicate.

Good writing does not require genius, only practice and a conscientious application of the principles which I alluded to earlier:

- Tell a story
- Tell it quickly
- Remember your audience
- Write it like you say it
- Use strong verbs in the active voice
- Use short words, short sentences
- Be concrete, be specific
- Avoid repetition

These principles are not the only ones, and other people might word them in other ways, but they do uncover most of the common pitfalls that writers are prone to. They are rules (the first four are general, the last four specific) which should help you write exactly what you want to write and in such a way that you will hold the attention of your readers and make the impression that you want to make. By using these rules, you control the words that go onto paper, and thereby, you have some control over the thoughts and feelings of your readers. Otherwise, the words control you, and you control nothing.

Tell Your Story Quickly

Whenever you write or communicate, you are telling a story, the story of an idea, a person, or an event. Your audience wants a good read. This does not mean that you must dramatize or inflate your material; it means that you must tell the reader right from the start what you are going to talk about and why it is important to him. Then you must set forth the basic outline or intentions of your paper (who did what to whom) and follow those intentions throughout. Don't go off on tangents and don't dawdle around. Get all the necessary introductory information up front and then get on with the story. And tell it quickly. Don't write a thousand introductory words on the history of quality control just to lead into your study of nurses' medication errors at Saskatchewan Memorial Hospital. Readers won't buy it. They want to know what happened in your study, why it happened, and how it is applicable to them. And remember, before your article ever gets to a general audience, it must pass an even more rigorous and limited audience known as the editor or reviewer. So if you bore or mystify or irritate the editor, your article will never even have a chance to bore, mystify, or irritate a general audience.

Remember Your Audience

Before you begin to write, you must decide to write to somebody. It may be to yourself (in a diary or personal journal, for instance) or a select group of professional colleagues or the public at large, but it must be somebody. For if you write to no one in particular, then no one in particular is going to read your story.

In considering your audience, you must decide exactly how much information they need to understand your story, and also, how much is too much. You must decide how technical or general your story should be. And you must consider the general sensibilities of your audience: their concerns and their feelings.

The importance of being sensitive to one's audience was made startlingly clear to me just a few months ago. I was asked to critique a grant proposal written by a master's-prepared, community health nurse who wanted funds to study the behavior of teenagers receiving dialysis therapy for kidney disease. Reading the narrative of the proposal, I found the usual errors of vagueness and repetition but no inconsistencies that could not be remedied in a later draft; and I thought that the study itself was well planned and interesting. Then I came to the addenda, and there, among the surveys, tests, and schedules that she planned to use during the study, I found the letter she had written inviting teenagers to take part in her program. "Dear Subject," it began. (Even Uncle Sam says, "Greetings.") "An investigation of the behavioral characteristics of juvenile nephrology patients has been initiated by a group of nurses and doctors. You have been selected for invitation to participate. If, after reading a description of the investigation, you choose to participate, sign the consent statement at the bottom of this letter. Be sure that your principal caretaker or significant other also signs."

While reading the letter, I became increasingly uncomfortable at the generally cold tone, but when I came to "principal caretaker," I saw red. I saw, in fact, the image of a rumpled old man with a mop and pail cleaning out a cage where this creature, this scientific curiosity known as a juvenile nephrology patient, crouched slavering in the straw. Teenagers, with or without kidney disease, have enough identity problems. They don't need some thoughtless researcher implying that they are animals in a zoo and that their parents are mere caretakers.

I realize that this is an extreme example of insensitivity to an audience. But it is a real example, and it was written by a person who is supposed to be well educated and is probably an effective, sensitive nurse when dealing with patients on a personal basis. It was just that, in this case, faced with the apparent impersonality of the written word and the lack of direct contact with her audience, she lost control of her medium. She allowed a document which should have been warm, personal, understanding, and persuasive to become something cold, dictatorial, and ultimately insulting. What she needed to do in her letter was appeal to the reader's growing sense of maturity and self-responsibility. It should have been a straightforward, sincere letter written from one concerned adult to someone who was becoming a concerned adult. What she needed, in other words, was to write her message the way she would like to speak it to someone standing right in front of her.

Tell It Like You Say It

In almost all languages, the written word tends to be more formal than the spoken word. This formality has many useful purposes. Primarily, it helps to guarantee consistent usage of words, and thereby, of syntax, so that complex ideas can be understood from generation to generation by anyone who uses that language. Unfortunately, however, formality in the written language can also lead to stilted wording and rules that become more and more inflexible. And the rules that govern written English, based as they largely are in classical Latin (an admirable language that almost no one understands anymore), can be utterly infuriating in their obtuseness. For instance: Explain the difference between as and like, between which and that. Why can't I use "hopefully" instead of "it is hoped?" Why would I use either one? And why, in the name of good sense, should I say, "It is I," when "It's me" is obviously more natural?

A person emerging from 16 or more years of formal education usually does so with his sense of linguistic logic irreparably crushed, a sort of civilized shell shock. As for myself, however, I have finally decided to stop worrying (most of the time) and love the language. When confronted by any writing task (and writing usually is a task, even for the most adept writer), I tell myself to relax, be honest, and tell it the way I would like to tell it to a good friend sitting in my living room. Dump the vagaries and cant and worn-out phrases that creep into everyday speech but keep its bite and directness. Then I try to follow four specific rules to accomplish that goal.

Active Voice/Strong Verbs

One of the great things about the passive voice is that it spreads blame so well. When you write a sentence like, "a decision has been made to rescind all pay raises," what you are implying is that no one actually made the decision. It just sort of appeared on your desk one day, like spontaneous generation. You know that's not true and so does the reader, but it sure gives a pleasant feeling of anonymity when the grumbling starts. The passive voice is the grand equivocator of action. It slows the pace of writing, it sets a veil between the author and responsibility, and it ultimately exasperates the reader. He can't figure out either who did all this stuff or why it took so long to happen.

Besides that, insecure authors seem to crave the authoritative air of the passive voice. It sounds so highfalutin that the reader, if he hasn't fallen asleep, can be intimidated into thinking that something important must have happened. For instance, why write a sentence like this — "The students in Group B judged the interviews" — when you could write it this way instead — "The evaluation of the interviews was effected by the subjects (students) who constituted Group B." I'll tell you why. The first one communicates and the second one doesn't. The first sentence is in the active voice. It has an easily identified subject and object. And it uses a strong verb—judge. It is a good descriptive sentence. Now look at the second sentence. The author has turned the original verb, the action word, into the object of the action, relegated the original object to a prepositional phrase, included two new verbs that add neither action nor new information to the sentence, and shoved the actual subject of the sentence between parentheses, as if he was trying to hide it. Nothing good can come of this. Good writing should be clear as a mountain creek. Strong verbs and the active voice make it that way, so do short words and short sentences.

Short Words/Short Sentences

There is nothing wrong with long words. The English language has the largest, most diverse stock of words in the world, and you can use all of them, short and long. Variety is the pop in the champagne bottle. It keeps the reader interested and alert to what might come. So the problem with long words is not themselves but the reasons for their use, many of which are wrong. One of the worst and probably most common reasons for using long words is simple laziness. Words are electric entities, full of intellectual meanings and emotional connotations, and they must be chosen carefully to convey the exact message we want. Unfortunately, too many academic writers do not choose words this way. They choose a word not because it is the right one but because Professor X uses it, because textbook B uses it, because everybody who is anybody uses it. They have, in fact, become so accustomed to using certain words in certain situations that they just quit thinking that there might be other words that are just as pertinent and probably more likely to raise a response in the reader. And the words that so many academics have become accustomed to are inflated, Latinate words that seem to go on forever and move you further and further from the heart of the matter.

Take the sentence: "The victim suffered lacerations and contusions." Why not say, "The victim was cut and bruised." Granted, there may be times when longer words are needed to describe some technical subtlety, but nine times out of ten, the long words are not used in a technical manner, and short words will do just as well if not better. For instance, in the example above the revised version creates an immediate picture of someone who has been physically hurt, while the original version reduces the immediacy and turns the image into a generalized notion. Short words keep audiences; long words lose them.

But this is simple stuff compared to the miscreations usually found in the little world of big words. Consider the following sentence:

> The past few decades have brought burgeoning interest in the diverse factors inherent in the growth and development of the infantile human organism, the focus of which appears most recently to have centered on the early interaction of the mother-child dyad.

What the author meant to say was something like this:

> There is an increasing interest in factors that affect infant growth and development. One recently studied factor is the relationship between the mother and her newborn baby.

So why didn't he say what he meant? For one, he was probably so insecure about the importance of his study, that he needed to wrap his message in a cloak of pseudo-intellectual verbiage. After all, doesn't infantile human organism sound more scientific than baby? And two, he had probably read similar word uses and constructions so often that he simply followed suit and turned out an apparently earnest copy of the work of his peers.

Words breed words. And if you aren't careful about your breeding habits you are liable to come up with some mighty strange offspring. Long, tortured, convoluted sentences like the last example, can be one of these cretins. These are sentences where subjects are buried in bushels of prepositional phrases, verbs are changed into abstract nouns (for example, *conduct* to *the conduction of*), and objects, well, the object of the whole exercise seems to get lost. In sentences like these, it's not just the reader, it's the writer who is confused. And the best way to avoid confusion is to simplify. Robert Gunning* suggests that if you type a sentence on a standard eight and a half inch page and it takes up more than three lines, then you are probably straining your reader's concentration. He even describes specific formulas for the maximum number of words that can be used in a sentence and still hold the attention of various audiences. He also includes an alphabetical list of long words and their short counterparts.

As general rules of thumb for short words and short sentences, I would say, one, if you do not use a particular word in normal conversation, then think twice about using it on paper; and two, if you can't read a sentence aloud without taking breaths before each natural stop, then you need to shorten it.

Be Specific

Now shortening or simplifying does not mean taking the complexities out of a piece of writing, it simply means removing the verbal dross so that the real information gets the space and discussion it deserves. Once you have removed the chaff from the wheat, there's a lot more room for wheat. Use the room well. Fill every sentence with information. Make every word work for its place; don't let a lazy one get by. As Keats admonished Shelley, "Load every rift with ore." Be concrete; be specific.

For instance, you could write a sentence like this:

> Changing the angle of the patient's bed may lead to certain physiological consequences.

It's short, it's to the point, it's in the active voice, and it tells us nothing, except the angle of the patient's bed is being changed. Physiological consequences can mean anything; it could mean that the patient will fall out of the bed and die or it could mean that he will sleep more comfortably. We need more concrete information:

> Changing the angle of the patient's bed may affect the patient's pulse rate and blood pressure.

This is better. We've dumped those two cumbersome words, physiological consequences, and replaced them with four specific ones — pulse rate and blood pressure. It's a stronger sentence, but it is still vague about the changing angle of the bed and the exact reaction of blood pressure and pulse rate. So let's just toss a little more ore into the rift:

> Elevating the patient's head from 0 to 30 degrees may quicken the patient's pulse rate and raise his blood pressure.

Now there is a filled rift. We now know exactly how much change is made in the angle of the patient's bed and in what direction. We also know exactly what happens to the patient's pulse rate and blood pressure because two strong, active verbs (quicken and raise) tell us. The sentence has given us all we can expect. Now we can go on to the next piece of information, which, in the case of this paper, is my final rule for good writing.

Don't repeat yourself. Say it once, say it clear, and don't say it again. New and insecure writers are often tormented, or at least appear to be tormented, by the thought that what they have written has somehow not gotten through to the reader. So every few paragraphs they repeat some little bit of information that may have slipped by. Don't do it. It is irritating — and it assumes that your readers are stupid, and that is still more

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*Gunning, Robert. *The Technique of Clear Writing: Revised Edition.* New York: McGraw-Hill Book Company, 1968.

irritating. If your readers are stupid, then they won't get the message no matter how often you repeat it. If they're not stupid and they still miss the word, then you need to write better.

Of course, there is also the writer who repeats things simply because he can't control his words or organize his thoughts. But that is a problem only time and practice can solve. And practice is absolutely necessary. If you want to write well, you must do it often. For, all the rules in the world won't help you if you leave your pencils hidden on a lonely shelf and let them gather dust. The more often you write, keeping good rules in mind, the more at ease you will grow with words and the more fluent your writing will become. So practice writing. Write letters to friends and letters to editors, keep diaries, and jot down that little anecdote about Uncle Bill. Write whatever is appropriate for you and your interest, but do it often. On top of that, read. It's hard to be a good writer if you're not a good reader. I won't tell you what to read, for I have a reading list as long as memory, and I don't have the room here to pick favorites. All I can say is, read widely and read a lot. And when you find what you like to read, you might find how you ought to write.

Funding and the Legislative Process

Locating Private Funding for Nurses

Janet Minnerath
Medical Librarian
Alton Ochsner Medical Foundation

Although we usually seem to perceive the Internal Revenue Service as an adversary, it is truly an ally in regards to the grant-making system in private foundations. Most foundations were established for tax purposes, and the IRS monitors their activities. Private foundations are required, by the Tax Reform Act of 1969, as amended in 1976, to disburse a required "minimum amount" of their money each year. Because the IRS requires forms to be filed each year, the grant seeker can find helpful information about foundations in IRS records. We will see this in more detail when we talk about annual reports and aperture cards (cards used in microfilm readers).

The most helpful information on private foundations comes from the Foundation Center, located in New York City. This is a nonprofit educational organization, which was chartered in 1956. It is supported by grants from private foundations and by fees charged to users.

If you contact the Foundation Center for information, they have several free publications they will send you, including a list of regional libraries with foundation information, a description of the computer services offered by the Center, an explanation of their "Associates" program, and a list of their publications.

The Foundation Center has established, in New York, Washington, D.C., Cleveland, and San Francisco, large collections of information about foundations. These collections are supplemented by regional collections located in most states, usually in a large public or university library. Some reference collections are managed by private foundations, such as the Danforth Foundation in St. Louis, Missouri.

Among the most useful publications prepared by the Center is the booklet called, *About Foundations,* which now costs $5.00. This new edition includes the latest information on foundation data available through computer search and foundation profiles, which is not available in the old edition, and outlines an approach to understanding foundations. This index of foundations is arranged according to a foundation's name, subject interest, and region — the three basic categories to seeking foundation information.

Foundations by Name

When you know the name of a foundation which you intend to approach for a grant, you should seek additional information by examining their IRS returns, annual reports, newspaper or magazine articles, and special reports. Start first with the *Foundation Directory*, also published by the Foundation Center.

The *Foundation Directory* is in its 6th edition, and includes information on the 2,818 largest U.S. foundations, with assets of more than one million dollars each. It is arranged alphabetically by title, including name, address, purpose, activities, financial data, officers, telephone numbers, and grant application procedures. The information is kept on computers, then updated and edited by the Center. Much of the financial information comes from the IRS. Four indexes guide the user to the foundation of his or her choice — by field of interest; by state and city; by donors, trustees, and administrators; and by name. It also indicates if an annual report is available.

The annual report is a useful guide to a foundation's activities and purposes, but foundations are not required to publish them. Only 350 foundations do publish annual reports. The regional collection in your area should have a file of printed copies of annual reports, as well as *Foundation Annual Reports on Microfiche.* Buying your own set of these annual reports is cheaper than writing to each foundation individually for their report.

Individual copies of annual reports are also available for purchase on microfiche. In addition, the Foundation Center publishes a pamphlet called *Foundation Annual Reports: What They Are and How to Use Them.*

The larger regional collections will have foundation information culled from magazines, newspaper articles, and press releases. Check with your librarian to see if they have such a file. This, of course, might increase your own awareness of foundations, and you could start a clipping file of articles you see that will be helpful in your search for funds.

In August 1977, the Foundation Center began publishing a loose-leaf service called *Source Book Profiles,* which describes and analyzes the 1,000 largest foundations, including information such as address, telephone number, list of officers, chief contact, background information, list of publications, purpose of foundation, list of representative grants, and policies. The key characteristics of each foundation are analyzed, including a grant analysis by subject, type of support given, type of recipients receiving grants, and geographic distribution. Updated information is distributed to subscribers as it becomes available.

Foundations by Subject Interest

There are two basic approaches to finding grant information by subject. You can use the *Foundation Directory's* fields-of-interest index, which lists broad subject categories, such as nursing, nutrition, or rehabilitation; or you can identify which foundations have funded which grants. The Center's "Foundation Grants Index" can be found in the bimonthly magazine, *Foundation News,* published by the Council on Foundations. It prints articles about funding and foundations and contains updates to the index divided into three sections: Section I lists foundations, by state, alphabetically and with the grants they have recently awarded; Section II lists grant recipients alphabetically; Section III lists key words and phrases from the grant description.

The Foundation Center has this subject information on computers and makes it available for a fee. Custom computer searches can be run by Lockheed, a private provider of computer data. While I was employed by the Medical College of Virginia Library, we contracted for this service and ran an experimental search. I asked for nursing and cancer. There were 274 records on nursing and 589 on cancer. When added together, however, the result was zero, that is, not one grant given to nursing had anything to do with cancer. I then asked for the first five records in nursing. The first was a $6,000 grant for an offset printing machine for the Visiting Nurse Association of Allegheny County. Three were related to fellowships from the Jessie Noyes Smith Foundation and the fifth was $79,000 from the Duke Endowment for cost containment in South Carolina hospitals.

The Foundation Center will also do a computer search for you, with a minimum fee of $50.00 for the first 75 records. Government grant information is also available through the *Catalog of Federal Domestic Assistance.* In addition to custom searches, the Foundation Center also produces general subject searches, called COMSEARCH. Nursing is lumped together with Dentistry and Public Health. You may buy a COMSEARCH for $3.00 in microfiche or $11.00 in print form. I think the extra eight dollars might be worth spending, unless you have a special fondness for microfilm readers.

Foundations by Region

If you think you would like information about a local or state foundation as a source for funds, there are several approaches to take. Volume two of the *National Data Book* is arranged according to state, with the foundations listed in descending grant order. If you look up Georgia, for example, in the third edition, the first entry is for the Joseph B. Whitehead Foundation, which issued $2,597,400 in grants in a one-year period. The last entry for Georgia is the Clarke Foundation, which allocated $125.00 in one year.

A second approach to regional foundation information is to look at the state and regional directories. These directories may usually be located through local public libraries. The Commonwealth of Virginia has published one. Many of the foundations covered in the state directories are too small to be included in the Foundation Center directories. If your project has local implications, you might be able to locate a local funder.

Annual Reports

The IRS requires that all private foundations file an annual report (even though many do not publish and distribute them), dubbed Form 990-AR, which includes information such as total assets and a list of grants awarded. The information from these reports is filmed and mounted on aperture cards. The Foundation Center libraries in New York and Washington D.C. have complete sets of these, while the regional collections (identified in the *Foundation Grants Index*) include information on particular states. For a fee which varies with the size of the state and the number of foundations, you may purchase your state's set on microfiche. North Carolina costs $144; South Carolina costs $47.

The IRS also requires a Form 990-PF to determine if the foundation is complying with the Tax Reform Act of 1969. This form includes total assets, gifts received during the year, grants made, and other financial transactions.

In Conclusion

What are some steps you should take if you have not applied for private foundation funds before? Start with your institution's grants office. Find out what information they have — annual reports, aperture cards, etc. Ask if the institution is an Associate of the Foundation Center. Check available information in your institution's library. If your medical library is separate from the academic library, you may need to examine both collections. Find out if the computer search service in the library includes the grants data base. A trip to your regional library may be necessary to examine the IRS forms on aperture cards and the latest information in the *Source Book Profiles*. Finally, subscribe to *Foundation News* and other applicable journals or use them at the library.

This will not guarantee that you will receive a grant, but it will guarantee enough information for you to make intelligent applications.

Nursing's Impact on Federal Legislation

Patricia Ann Jones
Department Director, Government Relations Division
American Nurses' Association

When I was preparing this paper, I gave considerable thought to what I have observed to be the role of the professional nurse in shaping national health policies. I looked back over countless professional meetings dealing with nursing and health legislation. I noted that the theme of these meetings had changed from one of powerlessness to discussions of potential power and finally to "we have power." I was subsequently reminded of an old story about Democrats, which my very conservative Republican father repeated every time he heard that I was voting Democrat.

A woman visited her gynecologist to seek advice on how to get pregnant. During the course of obtaining a history, the physician learned that the patient had been married three times but had never consummated the marriages, including her third and current marriage. Obviously, this information was quite relevant to the fact that she wanted to get pregnant. So the physician asked why she had never consummated her marriages. "Well," she replied, "my first husband died on our wedding night; my second husband was quadraplegic; and my third husband is a Democrat."

The physician did a double take and said, "I don't understand. What has being a Democrat to do with consummating your marriage?"

"Oh," replied the patient, "all he does is talk about how great it's going to be when it happens."

With this in mind I would like to focus my remarks on nursing action — proactivity as opposed to reactivity and/or inactivity.

Action Versus Reaction

In 1948, Esther Lucille Brown, in her classic report, *Nursing for the Future,** said, "Only when abiding conviction of social worth replaces lack of self-confidence, negativism, and carping comment, will that climate of opinion be created whereby nursing can move forward to greater selectivity of personnel and to a level of nursing care that bespeaks growth and development for the nurse herself and more and better health service for society."

Thirty-two years later with many technological changes in the health-care system, changes in nursing education, changes in the role of the nurse, and attitudinal changes in society toward health and women and even nursing, the profession continues to be characterized by "lack of self-confidence, negativism, and carping comments." And, I might add, an inability to mobilize our power.

When things go wrong we blame one another. We display our inadequacies like the ribbons on a four-star general's chest. We pursue intellectually a *nursing-prevention* model. We stamp out forest fires instead of preventing them. And we play "ain't it awful" with one another, while all the time we talk and talk and talk about what a wonderful life it will be when nursing rises to the top of the health-care system. I think I need not belabor this point.

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*Brown, Esther Lucille. *Nursing for the Future: A Report Prepared for the National Nursing Council.* New York: Russell Sage Foundation, 1948.

Networks of Power

So how do we become proactive rather than reactive? Grass roots lobbying is synonymous with proactivity in its ability to affect national health policy. In recent years, some of the most effective special interest groups have been groups that base their power on the ability to mobilize rapidly a large volume of grass-roots response to certain issues. The American Association of Retired Persons and the United Farm Workers are excellent examples of groups who have been successful because of grass-roots support. Interestingly enough, neither group is particularly powerful in terms of financial resources. Their effectiveness can be credited to an extensive network whereby information and action alerts are communicated to member groups. These groups in turn mobilize other networks, coalitions, and citizen groups with whom previous contacts have been made and support systems developed. Nursing has a similar mechanism already in place. Our only problem is that we use it inconsistently.

Consider for a moment the activity involved in overturning the Carter administration's 1979 recision request on nursing funds. Early in January of 1979, the ANA Washington office notified the state nurses' associations and the deans and directors of schools of nursing that the President's 1980 budget was very grim for nursing education and research, and that a recision request would be offered for the 1979 appropriations. When it became apparent that the House Labor HEW Appropriations Subcommittee planned to honor the greater majority of that request, we sent out an action alert to the state nurses' associations and schools. Those states who had previously developed networks, put them into motion. The response was overwhelming, as we all know, and nursing was successful in turning back most of the recisions.

In relation to nursing action during the recision crisis, there are three aspects which I would like to call to your attention. One aspect is the "previously developed system of networks." The second is that the recisions involved an area of nursing, the nurse training act, with which Congress has some familiarity and understanding of the issues, since Congress has been working with it since 1965. The third is that the recisions presented a crisis to nursing and involved an issue to which the nursing profession has been passionately and possessively devoted.

With this in mind, let's look at a noncrisis situation. When the Senate and House conferees met recently to iron out differences in the Department of Defense appropriations bill, one major difference for nursing was that the Senate version contained authorizations for the nurse practitioner and the psychiatric nurse to practice without physician referral under CHAMPUS (Civilian Health and Medical Program of the Uniformed Services). The House version did not contain this provision. Last year the same provision was offered by the Senate and included nurse midwives. In conference, the conferees accepted the nurse midwife but not the psychiatric nurse or the nurse practitioner. The House conferees felt they did not know enough about psychiatric nurses or nurse practitioners and indicated some confusion about the services they provided.

Our office worked hard providing information to both House and Senate conferees, but our input was not enough. In this situation, it is evident that members of the appropriations committee may understand some of the basic issues involved in funding nursing education, but they have limited understanding of nursing practice. This information must come from their nursing constituents in the states.

State and Local Organizations

Recently, I had the opportunity to speak with Congressman Michael Barnes from Maryland. Congressman Barnes does not serve on any of the health authorizing or appropriations committees. However, he is exceptionally well-informed on nursing issues. Maryland nurses have worked hard on informing their legislators about nursing. They started at the local level, by working with county and municipal legislators; next they turned to the state legislators; and now they have obviously moved to the federal level. Therefore, it is no surprise or accident that two major reimbursement bills for nursing were introduced by Maryland Congresswoman Barbara Mikulski, nor that the state legislature of Maryland, last year, changed the state insurance code so that nurse practitioners will be reimbursed for nursing services. Maryland nurses are also active in areas other than reimbursement, such as health planning and cost containment. Their activities are reported frequently in the press, which is another major factor in establishing public understanding of nursing.

Alabama nurses are another group that have accomplished considerable ground-work and grass-roots lobbying at the state and local levels. Because of their work, changes will be forthcoming in health planning, and rural health clinics will continue to develop. There are other states that have accomplished similar feats. Alabama and Maryland come quickly to mind because of recent focus on rural health clinics and reimbursement of nurse midwives. But the major point I wish to make here is that nursing is more likely to move ahead professionally in those states where nursing networks or coalitions have been formed.

Consumer groups can play key roles in network formation, particularly when nursing has not only made contact but is involved actively and visibly in consumer issues. Contacts with consumer groups can consist of such activities as coaligning with the Gray Panthers, working with PTA groups, or simply providing nurse speakers for citizens' associations.

Another area of consideration is the media. The Washington media do not give high priority to nursing events and issues. Other cities and communities, however, provide multiple opportunities for nursing news. Schools of nursing sponsoring special programs or projects which provide a particular service to an underserved group should publicize their services. I am always amazed at how little attention nursing pays to the media when there is news to spread about nursing services. The same can be said of nursing research, which is often patient-focused and certainly newsworthy. The American Medical Association is not nearly so reticent.

The states that have such networks, as well as informed state and local legislators, are frequently the states which provide the data that ANA can use in our work at the federal level. Schools of nursing and nursing researchers provide the state nurses' associations with information on their work. There exists in these states an obvious system of nursing networks with resultant pooling of informaton and unity in approach. Consumer groups are frequently supportive in these states because nursing has not only made contact but is involved actively and visibly in consumer issues.

Questions to Ask Yourself

I have no specific blueprint for affecting nursing legislation. I do have a series of key questions that you might ask yourself and your colleagues:

1. Do you know your congressman or senator? Do they know you, your institution, your work?

2. If you are engaged in research, what kind of information is being disseminated about your research? If the results speak to quality of care and cost effectiveness, have these results been shared with state and local legislators? with the media? with consumer groups?

3. Does your school of nursing have special programs or projects which provide a particular service to an underserved population group? What are the results of these programs in terms of health outcomes? And again, who knows about the program and the results?

4. Does your community have a particular health concern, such as a high infant mortality rate or inadequate services for the elderly? How involved and visible is nursing in solving these problems?

5. Are the nursing students in your school politically active? Do they know the name of their congressmen and senators? This sounds rather basic but it has been my observation that they often don't know. And this is equally true of the graduate as well as the undergraduate student.

6. Are you active politically? Do you participate in partisan groups? Did you or any of your colleagues attend the 1980 national conventions as delegates? Is there a state nursing professional advisory committee? If so, are you a contributor?

I realize that many of the questions are basic and come straight from a high school civics class. However, nursing must start with the basics in order to make the nursing message known.

We are indeed a powerful group. Our numbers alone can carry tremendous force in providing direction for health policy at state, local, and national levels. But we need to act, and we need to act now. We cannot afford to wait for another legislative crisis such as the recissions. The next time we may not win the battle and we most certainly will lose the war.

Project Participants

Alabama

- Samford University
  - Barbara L. Bullock
  - Phyllis Vaughan
- University of Alabama at Birmingham
  - Jeanette Lancaster
  - Marianne Murdock

Arkansas

- University of Arkansas at Pine Bluff
  - Alice Spencer Dickerson

Florida

- Florida State University
  - Janet Burge
- University of South Florida
  - Shirley Joan Gregory

Georgia

- Emory University
  - LaRetta M. Garland
- Georgia State University
  - Patricia Marie deAndrade
  - Phyllis Johnson
  - Evangeline B. Lane
- Macon Junior College
  - Loreen P. Overstreet
- Medical College of Georgia
  - Gloria M. Clayton
  - Eleanor M. Stringer

Kentucky

- Eastern Kentucky University
  - Jesselyn W. Voight
- University of Kentucky at Lexington
  - Gretchen LaGodna
- University of Louisville
  - Sharon C. Bridgewater

Louisiana

- Louisiana State University
  - Enrica K. Singleton
- Northwestern State University
  - Beatrice R. Brooks

Maryland

- Coppin State College
  - Nancy Wilkey
- Johns Hopkins University
  - Margaret R. Dear
  - Robert McKnight
- University of Maryland at Baltimore
  - Barbara Boland
  - Marilyn Winterton Edmunds
  - Wealtha Collins McGurn
  - Mary Tetz Neal
  - Mary Fry Rapson
  - Betty Lou Shubkagel

Mississippi

- Mississippi Gulf Coast Junior College
  - Eileen D. Callahan
- University of Mississippi
  - Alta Faye Woody (formerly)
- University of Southern Mississippi
  - Pauline R. Sommers

North Carolina

- Duke University
  - Genevieve M. Bartol
- University of North Carolina at Chapel Hill
  - Virginia F. Gover
- University of North Carolina at Greensboro
  - Ora L. Strickland (formerly)
- Western Carolina University
  - Vivian L. Deitz
  - Mable Searcy Carlyle

South Carolina

Medical University of South Carolina
    Priscilla Taylor
University of South Carolina at Aiken
    Penelope P. Arnett
University of South Carolina at Columbia
    Judith W. Hill
    Mary Ann Parsons

Tennessee

East Tennessee State University
    Sally B. Crawford
    Eileen L. Neff
    Margaret G. Opitz
Lincoln Memorial University
    Sandy McKeehan (formerly)
Meharry Medical College
    Evelyn K. Tomes
Tennessee State University
    Peggy Dahlhauser
Union University
    Pauline Bridger
University of Tennessee at Knoxville
    Kathleen P. Conlon
    Mildred W. Fenske
University of Tennessee at Martin
    Annie Sue Clift
University of Tennessee at Memphis
    Norma J. Long

Texas

Baylor University
    Karen Kay Esberger
Corpus Christi State University
    A. Susan Nelson
    Roxeann Zielie (formerly)
Southwestern Adventist College
    Laurice Kafrouni Durrant
    Sosamma Z. Lindsay
Texas Christian University
    Gail C. Davis
    Patricia E. Thompson
Texas Woman's University
    Carolyn M. Adamson
University of Texas at Arlington
    Suzanne Kindel (formerly)
University of Texas at Austin
    Betsy Eells Bowman
    Mitzi Nuhn Dreher
University of Texas at Galveston
    Patricia Gauntlette-Beare
    Lucille Moore
    Shirley Steele
University of Texas at Houston
    Sarah Q. Boone (formerly)
    Carol J. Gray
    Cheryl Driver Levine
    Frances D. Moncure
    Mary L. Moser
    Kathleen R. Stevens
University of Texas at San Antonio
    Helena McBride (formerly)

Virginia

Hampton Institute
    Elnora D. Daniel
    Patricia E. Sloan
J. Sargeant Reynolds Community College
    Mary Ruth Fox
Medical College of Virginia
    Jeanette F. Kissinger
    Barbara A. Munjas

Project Advisory Committee

Joyce Semradek
University of Oregon

Frances P. Koonz
University of Maryland at Baltimore

Juanita Fleming
University of Kentucky at Lexington

Carol Bradshaw
Santa Fe Community College, Florida

Gloria Francis
Virginia Commonwealth University

Jean A. Kelley
University of Alabama at Birmingham

Peggy J. Ledbetter
Northwestern State University, Louisiana

Project Staff

Audrey F. Spector
Principal Investigator

Barbara Lovett Mauger
Project Director

Kenneth Huggins
Project Assistant